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1956/57

# SAN DIEGO STATE COLLEGE

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## *Catalog and Announcement Of Courses*



FOR THE YEAR 1956-1957

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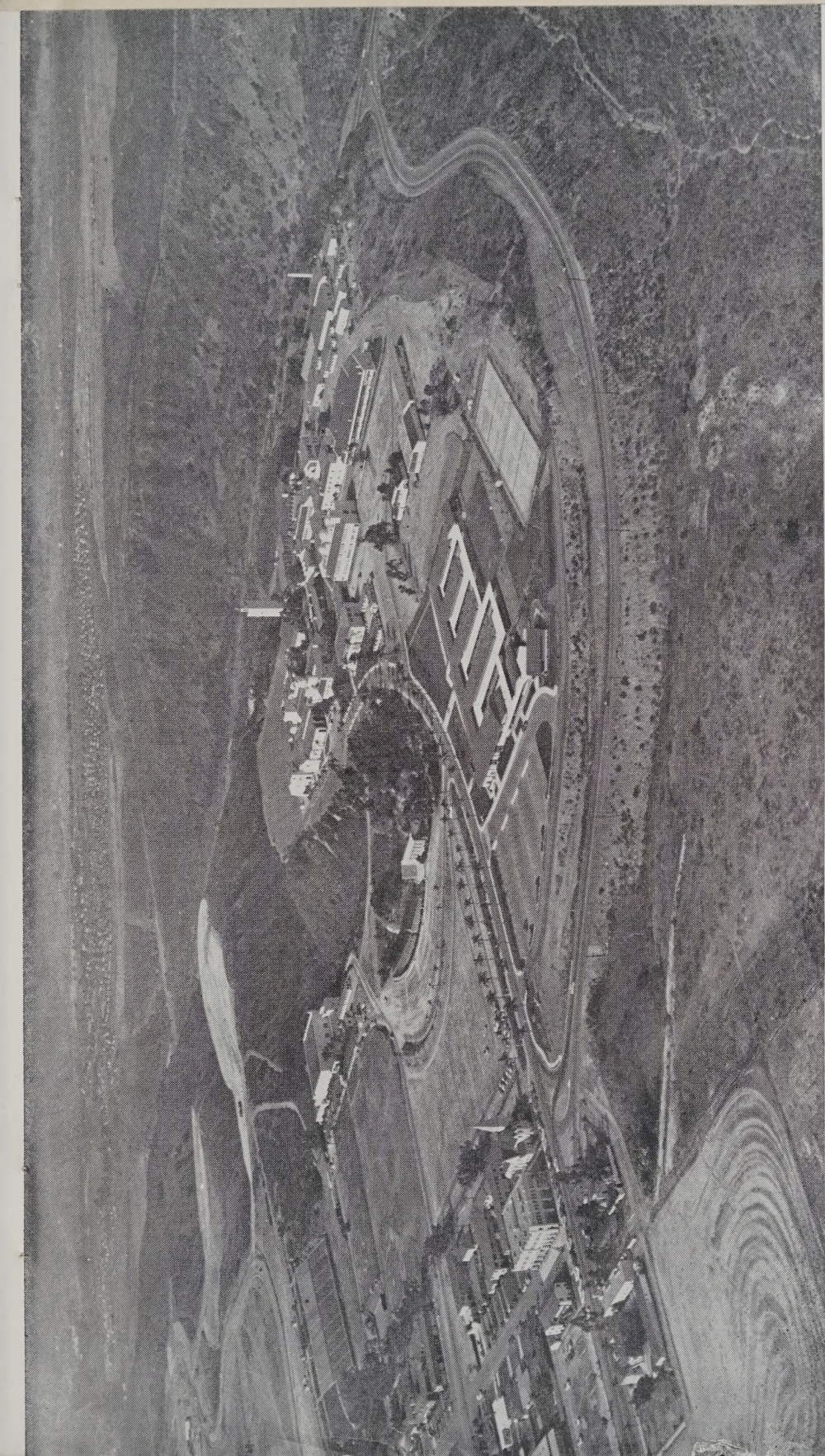
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Aerial view of the San Diego State College 285-acre campus. The master building program calls for 17 additional structures to be erected on the site.



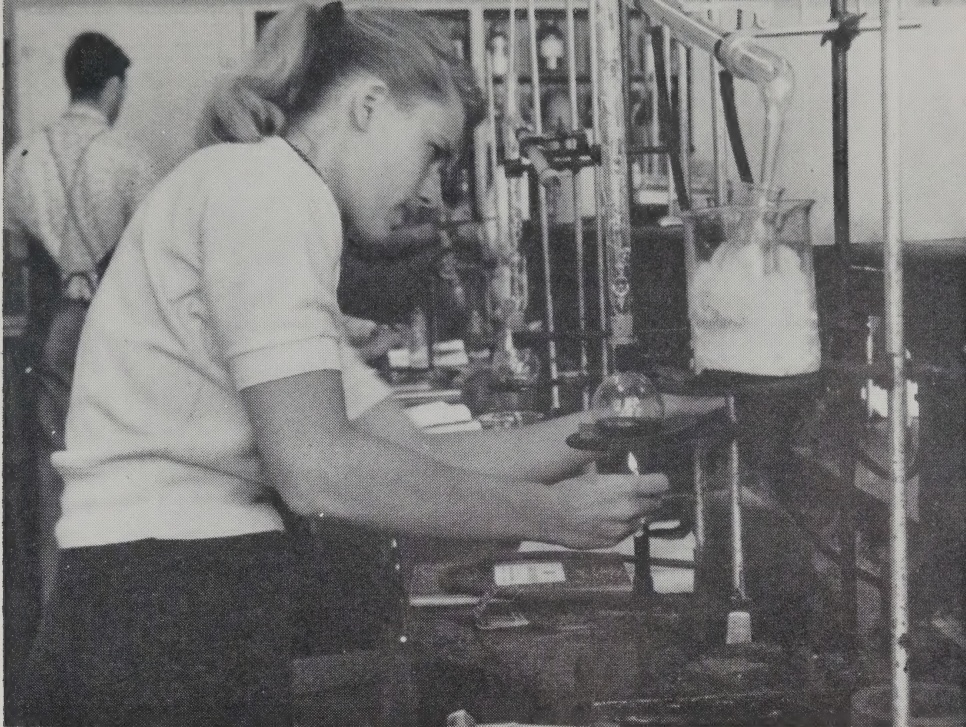


*Business Administration Building, which forms one side of the campus Main Quadrangle, reflects the Spanish-Moorish architecture of the college*

*Students check out more than a quarter of a million volumes yearly from the college library in their pursuit of learning. Shown here is main reading room.*





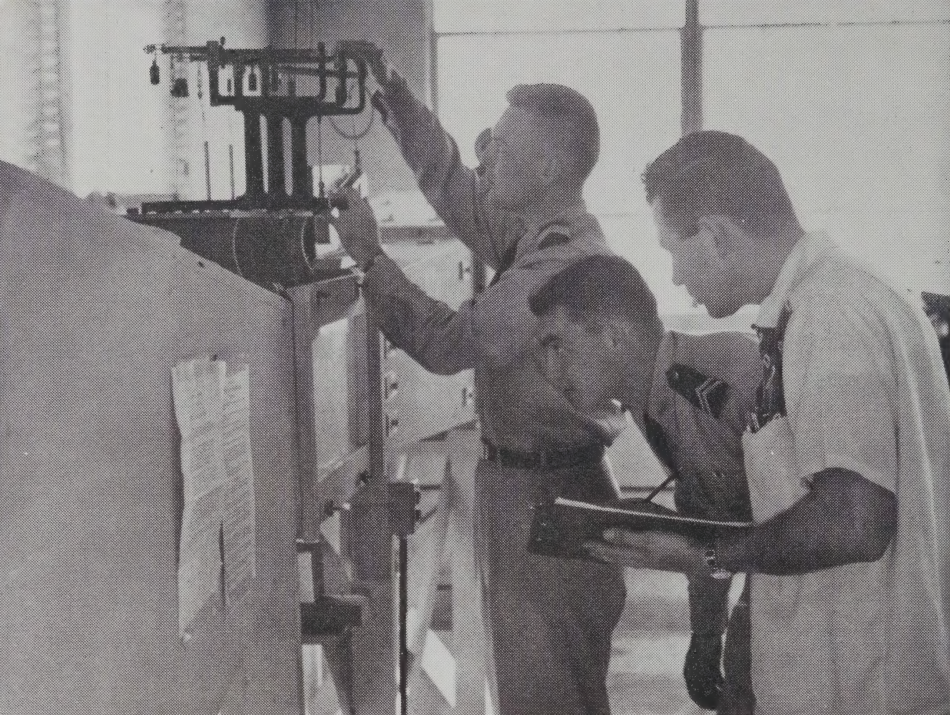


*Study of the sciences has taken on a greater importance with recent technological developments.  
The learn-by-doing method is ideally suited to the laboratory.*

*Nurses' training is made available through a cooperative arrangement between the college and  
the County Hospital, with courses offered by both institutions*







*Classroom theories are often tested in laboratory experiments. Here engineering students study aerodynamic principles in a small campus wind tunnel.*

*Industrial arts studies are primarily for training teachers in woodworking, radio and electricity, drafting, metalworking, transportation, graphic arts, and photography*





*Catalog*  
and  
ANNOUNCEMENT OF COURSES

VOLUME 43

APRIL, 1956

SAN DIEGO STATE COLLEGE  
SAN DIEGO, CALIFORNIA







## DEPARTMENT OF EDUCATION OF THE STATE OF CALIFORNIA

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and Director of Education

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Journalism Department.....	James L. Julian
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## FEES

### FEES PAYABLE AT TIME OF REGISTRATION

Regular students (carrying more than six units):	
Materials and service.....	\$22.00
Auditors pay same fees as students carrying courses for credit.	
Limited students (carrying six units or less):	
Materials and service for one, two, or three units.....	9.00
Materials and service for four, five, or six units.....	15.00
Auditors pay same fees as students carrying courses for credit.	
Nonresident Tuition (in addition to fees required of resident students):	
Nonresident student enrolled for 15 units or more.....	90.00
Nonresident student enrolled for less than 15 units..... (per unit)	6.00
Student activity fee.....	8.00

### MISCELLANEOUS FEES

(Fees payable when service is rendered)

Change of program.....	1.00
Failure to meet administratively required appointment or time limit.....	2.00
Late registration.....	2.00
Transcript of record (first copy free).....	1.00
R. O. T. C. deposit (unexpended portion is refundable).....	10.00
Loss or damage of equipment and library books.....	Cost
State teaching credentials (each credential).....	4.00

The credential fee is collected through the college by cashier's check or post office money order made payable to the State Department of Education.

### REGULAR SESSION FEE REFUNDS

Materials and service fees:

To be eligible for partial refunds of materials and service fees, a student withdrawing from college must file an application with the Business Office not later than 14 days following the day of the term when instruction begins: and provided, further, that the amount of \$2 shall be retained to cover the cost of registration.

Nonresident tuition:

Tuition paid for a course scheduled to continue for an entire semester may be refunded in the following amounts if application therefor is received by the Business Office within the following time limits:

<i>Time Limit</i>	<i>Amount of Refund</i>
(1) Before or during the first week of the semester.....	\$6 per unit
(2) During the second week of the semester.....	\$5 per unit
(3) During the third week of the semester.....	\$4 per unit
(4) During the fourth week of the semester.....	\$3 per unit
(5) During the fifth week of the semester.....	\$2 per unit
(6) During the sixth week of the semester.....	\$1 per unit

The late registration fee is not refundable.

The Business Office should be consulted for further refund details.



### SUMMER SESSION FEES

Tuition, each session \_\_\_\_\_ (per unit) 8.50  
Activity fee (not a state fee) \_\_\_\_\_ 2.00

### EXTENSION COURSE FEES

Extension course fee \_\_\_\_\_ (per unit) 7.50

### EXEMPTIONS

Students under Public Law 16, 346, 894, California state veteran, or state rehabilitation programs will have fees paid for tuition and materials and service under provisions of these respective programs.

### VETERAN ALLOWANCES

Allowances for subsistence begin on the date the Business Office clears for payment of fees, or effective date of VA authorization, whichever is later, except that veterans clearing the Business Office on the regular registration days will be certified for subsistence beginning with the first day of the registration schedule.

### FEES SUBJECT TO CHANGE

Fees are subject to change by law without advance notice.



# CALENDAR 1956-1957

## SUMMER SESSIONS, 1956

Term I (6 weeks) June 25-August 3  
Term II (3 weeks) August 6-August 24

## FALL SEMESTER, 1956-1957

- July 14 Qualifying examinations for entering students (8.15 a.m.-12.30 p.m.). Application for admission and reservation for these examinations must be made at least one week prior to the date of examinations.
- August 1 Applications for admission should be filed before this date.
- August 25 Qualifying examinations for entering students (8.15 a.m.-12.30 p.m.) (Last opportunity for students to qualify for admission to the fall semester. Application for admission and reservation for these examinations must be made at least one week prior to the date of these examinations.)
- August 25 Last date to apply for admission to the fall semester. All official transcripts must be on file by this date.
- September 15 General Culture Test, required of all transfer students with 45 units or more who are candidates for secondary school credentials (8.30 a.m.-12 noon).
- September 17-19 Testing and advising program. All new students are required to attend.
- September 19-21 Registration and payment of fees. (For evening program only, see the Evening Program Bulletin.)
- September 21 Late registration fee effective at close of registration schedule. (See time as announced in the "Class Schedule and Instructions for Registration, Semester I, 1956-57".) (For evening program only, see the Evening Program Bulletin.)
- September 22 Fundamentals Test, required of all transfer students with 15 units or more who are candidates for teacher education (8.30 a.m.-12 noon).  
Master's degree comprehensive for Plan B candidates in Education. Part I. (8.30 a.m.-12 noon.)
- September 24 Classes start.
- September 25 Assembly for students applying for admission to Teacher Education. (Campus Laboratory School Auditorium, during the free period.)
- September 26 Last date for payment of fees and late registration of students who did not complete registration on the regularly scheduled registration days. (For evening program only, see the Evening Program Bulletin.)
- September 29 Master's degree comprehensive for Plan B candidates in Education. Part II. (8.30 a.m.-12 noon.)
- October 8 Last date to apply for refunds.
- October 12 Last day for withdrawal from classes without penalty of class standing. Last date to file applications for mid-year graduation.
- November 9 End of the eighth week. Deficiency notices due.

November 12	Holiday for Veterans Day.
November 22-23	Thanksgiving recess.
December 7	Last date for withdrawal from classes for the semester.
December 10	File applications for June or summer graduation.
December 14	Last day of classes before Christmas recess.
December 15- January 1	Christmas recess.
January 2	Classes resume.
January 5	Master's degree comprehensive for Plan B candidates in Education, Part I.
January 12	Master's degree comprehensive for Plan B candidates in Education, Part II.
February 1	Last day of the fall semester.

### SPRING SEMESTER, 1956-1957

January 1	Applications for admission to the spring semester should be filed before this date.
January 12	Qualifying examinations for entering students (8.15 a.m.-12.30 p.m.). (Last opportunity for students to qualify for admission to the spring semester. Application for admission and reservation for these examinations must be made at least one week prior to the date of these examinations.)
January 18	Last date to file applications for admission to the spring semester for students who are qualified for admission. (No further qualifying examinations are given.) All official transcripts must be on file by this date.
February 4	General Culture Test, required of all transfer students with 45 units or more who are candidates for secondary school credentials (1 p.m.-4.30 p.m.).
February 4-6	Testing and advising program. All new students are required to attend.
February 6-8	Registration and payment of fees. (For evening program only, see the Evening Program Bulletin.)
February 8	Late registration fee effective at close of registration schedule. (See time as announced in the "Class Schedule and Instructions for Registration, Semester II, 1956-57".) (For evening program only, see the Evening Program Bulletin.)
February 9	Fundamentals Test, required of all transfer students with 15 units or more who are candidates for teacher education (8.30 a.m.-12 noon).
February 11	Classes start.
February 12	Assembly for students applying for admission to Teacher Education. (Campus Laboratory School Auditorium, during the free period.)
February 13	Last date for payment of fees and late registration of students who did not complete registration on the regularly scheduled registration days. (For evening program only, see the Evening Program Bulletin.)
February 22	Holiday—Washington's birthday.
February 25	Last date to apply for refunds.



March 1	Last date for filing applications for June or summer graduation.
March 1	Last day for withdrawal from classes without penalty of class standing.
March 29	End of the eighth week. Deficiency notices.
April 12	Last day of classes before spring recess.
April 13-21	Spring recess.
April 22	Classes resume.
April 27, May 4, 11	Qualifying examinations for students applying for admission to the fall semester (8.15 a.m.-12.30 p.m.). Open to high school seniors in their last semester. Application for admission and reservation for these examinations must be made at least one week prior to the date of these examinations. Qualifying examinations are also given during July and August.
May 3	Last date for withdrawal from classes for the semester.
May 4	Master's degree comprehensive for Plan B candidates in Education. Part I.
May 11	Master's degree comprehensive for Plan B candidates in Education. Part II.
May 30	Holiday—Memorial Day.
June 14	Commencement. Last day of the semester.

#### SUMMER SESSIONS, 1957

Term I (6 weeks) June 24-August 2

Term II (3 weeks) August 5-August 23

1956

JANUARY							JULY						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31					29	30	31				
FEBRUARY							AUGUST						
5	6	7	1	2	3	4	5	6	7	1	2	3	4
12	13	14	15	16	17	18	12	13	14	15	16	17	18
19	20	21	22	23	24	25	19	20	21	22	23	24	25
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MARCH							SEPTEMBER						
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11	12	13	14	15	16	17	9	10	11	12	13	14	15
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							30						
APRIL							OCTOBER						
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29	30						28	29	30	31			
MAY							NOVEMBER						
6	7	1	2	3	4	5	4	5	6	7	1	2	3
13	14	15	16	17	18	19	11	12	13	14	15	16	17
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27	28	29	30	31			25	26	27	28	29	30	
JUNE							DECEMBER						
3	4	5	6	7	1	2	2	3	4	5	6	7	1
10	11	12	13	14	15	16	9	10	11	12	13	14	15
17	18	19	20	21	22	23	16	17	18	19	20	21	22
24	25	26	27	28	29	30	23	24	25	26	27	28	29
							30	31					

1957

JANUARY							JULY						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5			1	2	3	4	5
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13	14	15	16	17	18	19	14	15	16	17	18	19	20
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27	28	29	30	31			28	29	30	31			
FEBRUARY							AUGUST						
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24	25	26	27	28			25	26	27	28	29	30	31
MARCH							SEPTEMBER						
3	4	5	6	7	1	2	1	2	3	4	5	6	7
10	11	12	13	14	15	16	8	9	10	11	12	13	14
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24	25	26	27	28	29	30	22	23	24	25	26	27	28
31							29	30					
APRIL							OCTOBER						
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14	15	16	17	18	19	20	14	15	16	17	18	19	20
21	22	23	24	25	26	27	21	22	23	24	25	26	27
28	29	30					28	29	30				
MAY							NOVEMBER						
5	6	7	1	2	3	4	3	4	5	6	7	1	2
12	13	14	15	16	17	18	10	11	12	13	14	15	16
19	20	21	22	23	24	25	17	18	19	20	21	22	23
26	27	28	29	30	31		24	25	26	27	28	29	30
JUNE							DECEMBER						
2	3	4	5	6	7	1	1	2	3	4	5	6	7
9	10	11	12	13	14	15	8	9	10	11	12	13	14
16	17	18	19	20	21	22	15	16	17	18	19	20	21
23	24	25	26	27	28	29	22	23	24	25	26	27	28
30							29	30	31				



## THE COLLEGE

### FUNCTIONS OF SAN DIEGO STATE COLLEGE

San Diego State College has these major functions: (1) To aid the student to develop his powers of critical, independent thought and to become aware of the main streams of our Nation's cultural, social, and scientific traditions, (2) To inform the student of the political ideas and ideals that have built our Democracy and to stimulate in him an interest in participation in civic life, (3) To equip young men and women with the knowledge and skills necessary to meet the needs of California and the Nation for competence and leadership in a number of vocational and professional fields.

To achieve these purposes San Diego State College has developed and is improving offerings as follows:

1. Student personnel services to assist the individual student to plan his educational program and to make his college and life adjustments.
2. General and liberal education for students who take work which leads toward the bachelor's degree or to the higher professions through graduate work.
3. Undergraduate and graduate curricula in teacher education for those students who plan to teach, supervise or administer at all levels in California's public schools.
4. Preprofessional curricula for fields such as medicine, dentistry, theology, and law.
5. Four-year curricula in such fields as business, industry, governmental services, homemaking, and social service.
6. Extension courses in appropriate fields.
7. Courses at the graduate level designed to extend the depth and scope of undergraduate work in several fields.

### LOCATION AND ENVIRONMENT

Renowned as a winter resort with a mild but invigorating climate, San Diego has become equally famous for its cool summers. High cultural standards in art, music, literature, and science create a stimulating environment for a college. Many of these advantages are to be found in the heritage resulting from the expositions of 1915-16 and 1935-36, including the buildings themselves, which portray the best types of Spanish colonial art and architecture. Housed in these buildings are the Fine Arts Gallery, exhibits in anthropology, natural history, and American archaeology, which are in many respects unsurpassed. The outdoor organ, the Balboa Bowl, and the horticultural gardens make Balboa Park, in which all these facilities are located, world renowned. The Scripps Institution of Oceanography, operated by the University of California at La Jolla, gives opportunity for important cooperation in the biological sciences.

### BUILDINGS AND EQUIPMENT

On February 1, 1931, the college was moved to the new campus, located one mile north of the city's principal east-west street, El Cajon Boulevard. The buildings are of Spanish-Moorish architecture which is well suited to the landscape and climate of this region. They include the Business Administration Building; the Science Building; the Fine Arts Building; the Library; the Little Theatre; the Music Building; the Physical Science Building; Scripps Cottage (a social clubhouse for women students); the Cafe and Book Store; and the Physical Education Building (a structure with adequate facilities for both men and women). During 1953 the following buildings were opened for use: the Administration Building; the Health Service Building; the Physics and Astronomy Building; the Campus Laboratory School; and an addition to the Music Building. During 1956 an Engineering Building, Home Economics Classroom Building, Home Economics Residence, and an Education Classroom Building will be open for instructional use. The Open Air Theatre, seating 4,200 persons, serves as a meeting place for large groups. There also is an excellent concrete stadium for football, constructed in a natural site, and a separate track and field sports area.

### DEGREES OFFERED

The following degrees are offered by the college: bachelor of arts, bachelor of science, bachelor of education, bachelor of vocational education, master of arts, and master of science.

### CERTIFICATES OFFERED

Certificate programs are offered in public administration, public welfare administration, and industrial management. Requirements for these certificates may normally be completed in the Evening Session Program.

For a description of requirements for the *Certificate in Public Administration* or the *Certificate in Public Welfare Administration*, refer to the Public Administration section of this catalog in the Announcement of Courses. For a description of requirements for the *Certificate in Industrial Management*, refer to the Business Curricula section of this catalog in the Announcement of Courses.

### FACILITIES FOR THE EDUCATION OF TEACHERS

The college maintains a modern elementary school on the campus where it has developed an extensive program for the education of elementary school teachers. The classroom-laboratory plan which calls for the use of work-rooms, the library, and shops, affords unusual opportunities for the induction of students into teaching. By arrangement with the San Diego city and county schools, directed teaching is provided in the elementary and secondary schools.

### THE FACULTY

The college faculty numbers over 300 members who have received their advanced training in over 100 colleges and universities of the United States or foreign countries. The faculty is distinguished not only in terms of formal education, but also represents a wide variety of practical experience in business, industry, and the teaching profession. Both past and present contributions to publications and research are extensive and impressive. For listings and further details see the directory.

### THE LIBRARY

The library facilities of this college are noteworthy for an institution of its size. The library consists of over 160,000 volumes and receives more than 900 different periodicals selected to meet the requirements of a modern educational institution. Professionally trained librarians are available to render assistance to students and faculty in their reading and reference work.

The Campus Elementary School Library, representing a collection of 15,000 volumes, possesses equipment and building facilities that are unique.

### ACCREDITATION

San Diego State College is accredited by reasons of its membership in the Western College Association and the American Association of Colleges for Teacher Education. It is also accredited by the California State Board of Education and is approved by the Veterans Administration for the education and training of veterans.

### LIVING ACCOMMODATIONS

Students living away from home may obtain assistance in locating housing through the office of the Associate Dean of Students, Activities. Single women students under the age of 21 must file with the Associate Dean of Students, Activities, a statement from the parent or guardian.

### VETERANS' EDUCATION AND HOUSING

The college has been approved by various accrediting agencies to offer courses for veterans leading to the baccalaureate in numerous fields and to the master's degree and various teaching credentials. In connection with the Personnel Services Center, a veterans' office is maintained on the campus to facilitate registration, aid in the establishment of benefits, afford special counseling services, and serve as an information center.



Through the City of San Diego, 400 family units formerly under the jurisdiction of the Federal Public Housing Authority have been made available to the college for the housing of its married veterans. These units are located some eight miles from the campus proper at Aztec Terrace, near Old Town and Loma Portal. Applications for housing at Aztec Terrace are made through the office of the Dean of Students. Applications may be filed only after the student has been accepted for admission to the college.

### STUDENT ACTIVITIES

A rich field of extracurricular activities is made possible through the Associated Students. The *Student Handbook*, available at the time of registration, gives information concerning the nature and scope of these opportunities. During the college year 1955-56, 7 governmental organizations, 8 service organizations, 51 departmental and honorary organizations, 14 religious organizations, 15 national fraternities, and 11 national sororities were officially recognized on the campus. Full programs of intramural and intercollegiate athletics are likewise maintained. Inquiries regarding sorority Rush Week should be addressed to Panhellenic, San Diego State College, San Diego 15. Students are urged to select extracurricular activities carefully in order to receive optimum benefit from group experiences and to maintain continuous records of good scholarship.

### STUDENT HEALTH SERVICE

As a part of the program of student personnel services, the college provides health services for the protection and maintenance of student health. These health services, under the direction of a medical doctor and consisting of a full-time staff, assisted on a part-time basis by several medical specialists, are available to students for consultation, treatment of minor physical difficulties and emergencies, and counsel as to additional proper procedures. Full-time nurses are on duty. During the weeks the college is in session students may obtain appointments with specialists during the hours they are available at the Student Health Service. A student must be currently enrolled for seven or more units of credit to be eligible for other than emergency treatment.

As part of the regular admission procedure, a health statement is required of each student. A chest X-ray and a survey of eye and ear conditions are done as part of the registration procedure. A form is furnished each student prior to registration for the purpose of recording the results of a physical examination done by the student's private physician. Although the physical examination is not required as part of the admission procedure, it is strongly recommended as a means of compiling a complete health record of the prospective student. Careful attention is given to students undergoing private remedial treatment and to those for whom a modification of study load or amount of participation in physical activities seems advisable. A follow-up procedure is in effect for students who have been urged to consult their family physician for correction of defects found in the examination.

Physical examinations are required of and provided for all teacher education students at time of admission to and graduation from the various educational credential programs. Physical examinations are furnished by the Health Service only to those credential candidates who are applying for a state credential through the college, screened by the college. Physical examinations are also required before students are authorized to participate in the organized program of intramural recreation, or in intercollegiate athletics.

### PERSONNEL SERVICES CENTER

The college offers the services of a trained staff to students who wish help in the solution of problems which are personal, social, academic, or occupational in nature. It is a program designed to help students gain the greatest possible advantage from their college experience. Agencies and facilities cooperating in the effort to assist students include the student health service; the test office; the reading, writing, and study laboratory; the speech improvement program; the placement and occupational guidance service; the veteran's service; and the counseling service. Students who wish to take advantage of these facilities may do so through the Personnel Services Center.

## PLACEMENT OFFICE

The college provides a centralized placement service in cooperation with the various departments of the college. Students are aided in securing part-time and full-time positions and in obtaining information concerning occupational trends. Liaison is maintained with the Personnel Services Center on matters relating to senior vocational counseling. Staff members maintain constant contact with schools, businesses, and industries.

## SPEECH CORRECTION CLINIC

A speech correction clinic for the training of college students in speech correction is held each Saturday during the school year, from 8.15 a.m. to 12 noon, to deal with all types of speech problems, such as stuttering and lisping. It is open for ages from 4½ years to the young adult; however, because of physical limitations, not all who apply are admitted. The cost of materials, not to exceed \$1, must be met by the parent or individual concerned. Parents who enroll a child in the clinic must also enroll in Speech Arts E-175, The Role of Parents in Problems of Speech Correction, for one unit of credit, offered as an extension course each semester.

## ALUMNI ASSOCIATION

The Alumni Association of San Diego State College maintains an office on the campus in charge of an Executive Secretary. Membership is open to former students of the college who were in regular attendance for one or more semesters. Membership is also open to past or present members of the faculty. The association publishes the *Alumni Quarterly*.

## SCHOLARSHIPS AND AWARDS

A number of scholarships and awards are available, usually to students who have completed at least one semester at San Diego State College. These are granted on the basis of adequate scholarship, special skill, and/or need, according to the wishes of the friends of the college making these awards possible.

### GROUP I SCHOLARSHIPS

The following scholarships are available through application to the faculty Committee on Scholarships. Application forms may be obtained from the office of the Associate Dean of Students, Activities.

**ALPHA PHI OMEGA.** A \$50 scholarship awarded each semester to a student whose grade point average is 1.5 or better. If an entering freshman, the student must have had a "B" average in high school. The committee will select three applicants for recommendation to Alpha Phi Omega for final selection.

**ALPINE ARTISTS AND WRITERS.** \$25 to a student entering college to major in art, given in memory of former members of this group.

**AMERICAN ASSOCIATION OF UNIVERSITY WOMEN.** One scholarship of \$100 given each year in June to a graduating senior who will begin work in an accredited college or university toward a higher degree or credential. The scholarship is made available by the San Diego Branch of the American Association of University Women. Interviews with representatives of that organization are arranged.

**AMERICAN ASSOCIATION OF UNIVERSITY WOMEN—SAN DIEGO BRANCH.** A scholarship awarded annually by Mrs. W. O. Shackelford, a member of the San Diego Branch of the American Association of University Women, to encourage qualified and gifted women to enter the teaching profession. Sixty dollars a semester is given to an undergraduate woman student in her junior or senior year of college who is preparing for elementary or secondary school teaching. She must have a "B" average or better. The recipient is required to teach at least one year after graduation or repay the amount received from this award. The Scholarship Committee of the San Diego Branch of A. A. U. W. makes final selection.

**AMERICAN ASSOCIATION OF UNIVERSITY WOMEN—SAN DIEGO BRANCH—GERTRUDE SUMPTION BELL SCHOLARSHIP.** A \$50 scholarship given annually to a woman student majoring in English, Psychology or Education. Final selection is made by the Scholarship Committee of A. A. U. W.



**ANONYMOUS (B).** A scholarship of \$100 given each year to be divided among students in financial need, at the discretion of the Committee on Scholarships. The committee gives consideration to scholastic attainment, financial need, and character.

**ANONYMOUS (E).** A \$50 scholarship awarded each semester. A public spirited citizen who prefers to assist a student majoring in science makes this award possible.

**ASSOCIATION OF CHILD EDUCATION.** A \$50 scholarship given to a student in the Kindergarten-Primary program. The award is customarily made to an upper division student showing promise who is in need financially.

**AZTEC CLUB SCHOLARSHIPS.** A number of scholarships, varying in amount to a maximum of \$250 each, available each year to students participating in inter-collegiate athletics. Scholarships are renewable annually for recipients who meet specified standards of scholarship and citizenship.

**BLUE KEY.** Two scholarships of \$50 each given annually; one each term. One shall be awarded an entering male freshman student, preferably from San Diego County. The other scholarship will be awarded to a male student in the lower division who has completed at least one semester (12 units) of work at San Diego State College.

**BURGENER, CLAIR W., SPEECH SCHOLARSHIP.** A four-year scholarship of \$50 per semester awarded to an entering freshman who is outstanding in public speaking and general scholarship. Recommendations will be made by the Speech Arts Department with final selection by the Committee on Scholarships.

**CALIFORNIA STATE EMPLOYEES, CHAPTER 17.** A \$60 award given annually to a senior student who plans to go into public service. The recipient must have a "C" average over-all and "B" in major.

**CAP AND GOWN.** One \$50 scholarship awarded annually to an upper division woman student who has attended San Diego State College for at least one semester and who has maintained at least a "B" average in scholarship for her entire college career.

**CONSOLIDATED VULTEE AIRCRAFT CORPORATION.** Nine scholarships each year for students from the fields of accounting, engineering, mathematics, physics, business, personnel and industrial management. Each scholarship will provide \$75 a semester for each semester in college as long as the student maintains a standard of superior academic performance. Freshmen, sophomores and juniors are eligible.

**DELTA DELTA DELTA NATIONAL FRATERNITY ALLIANCE.** \$50 a semester for four semesters given in memory of Georgia Aiman Shattuck. This scholarship is to be awarded to a single woman student, in the upper division, who has been admitted to the teacher education curriculum, with a "B" average in all college work, and who is in financial need.

**EL CERRITO EXCHANGE CLUB OF SAN DIEGO.** \$75 scholarship awarded annually to a deserving student who is majoring in any branch of the teaching field.

**ENGINEERS CLUB OF SAN DIEGO.** \$100 awarded annually to student majoring in engineering.

**EXECUTIVES' SECRETARIES, INC., SAN DIEGO CHAPTER.** Annual \$100 scholarship for an upper division woman student majoring in business education. She must have a "B" average. The group selects the candidate from recommendations of the San Diego State College Scholarship Committee.

**FACULTY DAMES.** Two scholarships of \$50 each given annually to deserving women students.

**FAY, MARY, SCHOLARSHIP.** A \$250 scholarship donated by the Scott Foundation for a student to attend a conference in New York City and to visit the United Nations. Students applying must be sophomores and juniors and must return to San Diego State College the following year to report on conference. Recipient must be a student who has done something outstanding on behalf of international understanding.

**FLEISCHNER, ANNA S., SCHOLARSHIP,** given by Dr. and Mrs. Charles A. Fleischner. An award of \$150 given annually to a needy, physically handicapped student, irrespective of race, color or creed.

**INTERFRATERNITY COUNCIL BASKETBALL SCHOLARSHIP.** Three \$25 scholarships awarded annually to three entering basketball players. The scholarships will be given at the beginning of either the fall or spring semester. Only students having regular status will be considered for the scholarships.

**JONES, SYBIL ELIZA, MEMORIAL.** A scholarship awarded to a student in drama. Applicant must be officially enrolled in at least his fourth semester in speech and drama with participation in dramatic productions on the campus. He must have at least a "C" average in all college work.

**KAPPA BETA NU.** A \$100 scholarship offered annually to a junior or senior woman student in elementary teacher education. Applicant must be a resident of San Diego County who is in financial need. Final selection rests with a scholarship committee of Kappa Beta Nu.

**KAPPA DELTA PI.** Two \$25 scholarships awarded annually by Kappa Delta Pi of San Diego State College for students in teacher education. Selection for awards is made by the group.

**KAY-LAB, INC.** Two annual awards of \$50 each to students of physics, one award to be made to a freshman on the basis of his performance on the competitive physics test given high school seniors by the Southern California Section of the American Association of Physics Teachers. The other award goes to an upper division student majoring in physics.

**KIWANI-ANNES (College Area).** A \$50 scholarship awarded annually.

**LEMON GROVE WOMAN'S CLUB JUNIORS.** A \$50 scholarship for upper division woman student in teacher education. Financial need is first consideration in awarding this scholarship.

**MARCY, MAY FINNEY.** Fifty-dollar scholarships awarded to women students in upper division. Awards are made upon recommendation of the faculty Committee on Scholarships to Mrs. Marcy and a committee of members of Cap and Gown on San Diego State College campus.

**MUSIC DEPARTMENT SCHOLARSHIPS.** A limited number of Music Department scholarships covering the costs of tuition, books, and other supplies available to regular course music majors. The awards of these scholarships are based upon financial need, scholarship, and performing talent as demonstrated in auditions before a scholarship committee of the Music Department. Application may be made directly to the Music Department.

**NORTH PARK KIWANI-ANNES.** One scholarship of \$50 a semester for a year awarded annually to a male student preparing for teaching. The recipient must have at least junior standing.

**PHI EPSILON PHI—Alpha Chapter.** One \$50 scholarship awarded to a student majoring in education who is in need of financial assistance and who has sound scholastic standing.

**PI LAMBDA THETA.** An annual scholarship of \$50 given to a senior student in education. Final selection is made by the fraternity.

**PRESBYTERIAN WESTMINSTER FOUNDATION.** A scholarship of \$50 awarded each year at the end of the spring semester to a student of any religious faith enrolled at San Diego State College on the basis of contribution of time and energy to campus religious ideals and activities, and liaison with nonreligious groups, stimulating them to religious thought and activities. This scholarship is made available by the Presbyterian Westminster Foundation Committee of the San Diego area.

**PSI CHI.** \$50 awarded annually to a student majoring in psychology.

**SAN DIEGO BUSINESS AND PROFESSIONAL WOMEN'S CLUB.** A \$50 scholarship awarded annually to a worthy young woman attending San Diego State College and having at least a "C" average.

**SAN DIEGO CITY PANHELLENIC.** Two \$50 scholarships awarded annually to two upper division women students.

**SAN DIEGO CITY TEACHERS ASSOCIATION.** Two scholarships of \$100 each presented each year to prospective teachers, with no restrictions as to college year.



**SAN DIEGO COUNTY TEACHERS ASSOCIATION.** Four \$100 scholarships made available annually. Awards are made to students in the field of education.

**SAN DIEGO SOCIAL WORKERS CLUB.** A scholarship of \$50 each semester for an upper division student intending to enter the field of social work, who has above average scholarship and shows evidence of financial need.

**SAN DIEGO STATE COLLEGE ALUMNI ENGINEERS ORGANIZATION.** A \$25 scholarship given annually to a student majoring in engineering. He must have completed between 30 and 89 units when he applies. He must have a "C" grade average. Final selection is made by this organization.

**SCOTT FOUNDATION MUSIC SCHOLARSHIPS.** Five \$100 scholarships awarded annually. Any student entering college who is interested in music as a major is eligible to apply. All awards will be granted on the basis of competition in auditions. Applications may be made directly to the Music Department, San Diego State College, in writing, giving the following information: (1) your name, address, and telephone number; (2) your instrument; (3) high school you are attending; (4) the probable date of your graduation; (5) the names of two references.

**SENN, PERCIE BELL, SCHOLARSHIP IN PUBLIC SPEAKING.** An annual scholarship made possible by Admiral Elliott Senn, who has donated \$1,500 to the San Diego State College Foundation for the purpose of assisting students in public speaking. This is awarded to an entering freshman or any qualified student in the field of debate.

**DAVID AND ANNA SILVERMAN.** The interest from a fund of \$5,000 awarded annually, preferably to a man interested in a career in medicine or teaching. Final selection will be made by a three-member board of trustees empowered to invest the sum.

**SIGMA ALPHA IOTA MARGARET SWOPE SCOTT MEMORIAL SCHOLARSHIP.** A \$50 scholarship awarded a deserving woman student majoring in music with the possibility of becoming a professional musician.

**SOUTHLAND CLUB SCHOLARSHIP.** A \$50 award made available by the Southland Club for Business and Professional Women to a junior or senior woman student who plans to enter business or a profession. The student must have at least a "B" average; she must have been graduated from a San Diego City or County high school and must be of good moral character and in financial need.

**TEACHER EDUCATION SCHOLARSHIP.** \$1,200 awarded by the California Congress of Parents and Teachers to three or more students. Selections are made upon the following conditions: (1) the recipient must have high qualifications and be in financial need; (2) the scholarship will be granted to students training to teach in the public schools of California; and (3) the award shall be limited to students in the junior and senior years with one \$400 award going to a fifth-year student training to teach on a general secondary credential.

**WILMIA TYLER-TROTT.** An annual scholarship of from \$50 to \$100 made possible by Wilmia Tyler-Trott, who has donated \$5,000 to the San Diego State College Foundation. This scholarship will be awarded any deserving student.

**WEST COAST ELECTRONIC MANUFACTURERS ASSOCIATION.** A scholarship of \$300 awarded to a freshman, sophomore or junior without discrimination as to race, creed or color. Student selected must be interested in electronic engineering or allied branches, toward a technical education.

**WOMEN'S AUXILIARY OF SAN DIEGO DENTAL SOCIETY.** An annual award of \$200 made in June to an outstanding male student in pre-dentistry and \$100 to a young woman preparing to become a dental hygienist.

## GROUP II SCHOLARSHIPS

The following scholarships are available through application to the donor.

**AMERICAN ASSOCIATION OF UNIVERSITY WOMEN—EL CAJON VALLEY BRANCH.** An annual scholarship of \$50 presented to a young woman entering San Diego State College.

**CONVAIR MANAGEMENT CLUB.** Three awards offered to seniors graduating from high school who are sons or daughters of Convair employees.

**ESCONDIDO BUSINESS AND PROFESSIONAL WOMENS CLUB.** Two \$100 scholarships given annually to two high school graduates who plan to attend San Diego State College. These students are selected by the club on basis of good citizenship, good grades and participation in activities.

**HIGH TWELVE INTERNATIONAL.** Full tuition scholarships in the School of Government at George Washington University are sponsored by High Twelve International under grants of the Wolcott Foundation. Scholarships are awarded on a competitive basis nationally to young men and women seeking careers in the United States Foreign Service. Graduating seniors are invited to submit applications through any local High Twelve Club.

**KAPPA ALPHA PSI FRATERNITY—SAN DIEGO ALUMNI.** An annual \$50 scholarship (\$25 per semester) awarded to a student graduating from high school for fees at San Diego State College.

**KAY JEWELERS SCHOLARSHIP.** \$30 a semester for eight semesters awarded an entering freshman. This scholarship is to be given alternating years to men and women students. In the fall semester, 1956, the scholarship will be awarded to a young man. Selection is made from applications received from high schools.

**LA MESA EVENING WOMEN'S CLUB.** A \$75 scholarship awarded a senior in high school who is entering San Diego State College.

**LINKLETTER, ART.** Four \$50 awards made each June to students graduating from San Diego City and County high schools: (1) one to a girl and one to a boy graduating from high schools with enrollment of 1,000 or over; and (2) one to a boy and one to a girl from high schools with enrollment under 1,000. Selection is based on scholarship, citizenship, and need. Applications should be made through the high school counselor.

**OPTOMETRIC ASSOCIATION OF SAN DIEGO COUNTY—WOMAN'S AUXILIARY.** Fifty dollars awarded annually during the spring semester to a student who meets the qualifications set up by the Auxiliary. The award is based on scholarship, qualities of character and personality, high moral integrity, and need.

**OSTEOPATHY AUXILIARY—SAN DIEGO COUNTY.** An annual award of \$100 to a student who has graduated from the San Diego State College and has been accepted for enrollment in the College of Osteopathy in Los Angeles.

**P.E.O. SCHOLARSHIPS.** Various chapters of this organization assist worthy students in amounts ranging from \$15 a month to \$50 a semester.

**ROTARY INTERNATIONAL CLUB.** Scholarships of various amounts have been awarded students by El Cajon, Escondido, Old Mission, San Diego, Oceanside, and Vista Rotary Clubs.

**SCOTT FOUNDATION—MERCHANDISING.** A scholarship in the amount of \$500 available to men students planning on careers in retail trade and interested in remaining in the San Diego Area. The recipient can be accepted for the scholarship during the freshman, sophomore, or junior year. The award will be paid at the rate of \$50 a semester for each of the first three years and \$100 a semester during the senior year.

**SIGMA ALPHA IOTA, San Diego State College Chapter.** \$25 a semester will be given to a student majoring in music. Must be a student who is not a member of this organization. Group will make final selection.

**TOWN AND COUNTRY CLUB—ESCONDIDO, CALIFORNIA.** A \$200 scholarship given an outstanding student graduating from Escondido High School who plans to attend San Diego State College.

**WALKER, RALF MARC.** A scholarship in the amount of \$500 made available by the Walker-Scott Corporation in memory of the late Mr. Ralf Marc Walker to a woman student majoring in merchandising or retail trade at the San Diego State College. The scholarship is presented to a girl in Walker's Hi-Debber Council each year. The total scholarship is deposited in the San Diego State College Foundation and is paid to the recipient at the rate of \$50 a semester for each of the first three years and \$100 a semester for the two senior semesters.



## AWARDS

The following scholarships are awarded through the cooperative efforts of the faculty Committee on Scholarships, interested academic department, and the donor.

**ALPHA GAMMA DELTA.** An annual \$50 award to the student in Alpha Gamma Delta sorority with the highest grade point average.

**ARNOLD AIR SOCIETY SCHOLARSHIP.** \$50 awarded annually to any Air Science III student who is offered and accepts a contract in the semester in which the scholarship is offered. Qualifications: 1. Must be in top 20 percent of air science class; 2. Must have displayed outstanding leadership ability in the air program; 3. Must have desire to participate in the flight training program of Air Force; 4. Must have over-all scholarship equal to or above all men's average.

**CHI OMEGA FRATERNITY.** A \$20 scholarship awarded annually to a student outstanding in the Sociology or Psychology Department.

**CORONADO WOMAN'S CLUB.** \$150 given to a woman student majoring in nursing.

**DANCE CLUB OF SAN DIEGO STATE COLLEGE.** A \$50 scholarship awarded to an outstanding dancer from the club to be used for tuition at a recognized summer school of the dance.

**DAUGHTERS OF THE AMERICAN REVOLUTION.** Two scholarships of \$25 each presented each spring, one to a young man and the other to a young woman outstanding in citizenship and Americanism. Presentation of awards is made at a luncheon on Flag Day, which is given by the Daughters of the American Revolution.

**KAPPA ALPHA THETA MOTHERS CLUB.** A scholarship of \$50 awarded annually to the member in the local chapter who has made the highest grade point average for the school year.

**LA MESA JUNIOR WOMEN'S CLUB.** Two \$100 awards made to graduates of Grossmont and Helix high schools.

**NATIONAL LEAGUE OF AMERICAN PEN WOMEN—SAN DIEGO BRANCH.** A scholarship of \$50 awarded annually to an outstanding woman student. Selection will be made from students in the fields of art, music, and creative writing.

**PANHELLENIC OF SAN DIEGO STATE COLLEGE.** \$50 given biannually to the sorority member who has made the highest grade point average in the semester previous to the making of the award.

**PHI ALPHA THETA (BETA KAPPA CHAPTER).** A \$50 scholarship awarded to a history major. Applications should be made during the last semester of junior year to the Chairman of the History Department.

**SAN DIEGO WOMAN'S CLUB.** An annual award of \$50 given to a student who is outstanding in debate.

**STEINMAN-HILLEL.** \$50 to be awarded annually to a student who has done the most to further the cause of interfaith cooperation among the students of the campus. The selection of the awardee shall be made by a committee of three judges. Award is made possible by the Lou Steinmans, members of the Lasker Lodge of the B'nai B'rith which sponsors the Hillel organization on the campus.

**STOTT, DOROTHY CRANSTON.** A scholarship of \$100 awarded each June to a student who has attended the San Diego State College for at least two years and who is being graduated or has been graduated from the San Diego State College with a major in English. The recipient must continue work in the San Diego State College or in any other accredited college or university, towards a higher degree or credential. The selection is made by the Department of English with approval by the Committee on Loans and Scholarships.

**STOTT, K. W.** A scholarship of \$100 awarded each June to a student who has attended the San Diego State College for at least two years and who is being graduated or has been graduated by the San Diego State College with a major in History. The recipient must continue work in the San Diego State College, or in any other accredited college or university, toward a higher degree or credential. The selection is made by the Department of History with approval by the Committee on Loans and Scholarships.

**WEINBERGER, HENRY, INTERFAITH SCHOLARSHIP.** A scholarship of \$100 awarded in April of each year to the student of any religious faith enrolled at San Diego State College who is judged to have done the most to further interfaith ideals among the students of the college during the year of the award. This scholarship is made available by Mr. Henry Weinberger of the Lasker Lodge of B'nai B'rith, under auspices of the B'nai B'rith-Hillel Councilorship on San Diego State College Campus.

### LOANS

Short term loans are available to students who have attended San Diego State College for at least one semester and who have demonstrated ability to do satisfactory college work.

Long term loans are available to students majoring in social science, education, nursing and certain other fields.

Applications for loans are made through the Office of the Activities Adviser.



# ADMISSION AND REGISTRATION

## GENERAL ADMISSION REQUIREMENTS

Admission requirements at San Diego State College are stated in the California Administrative Code, Title 5, Education, which provides uniform admissions regulations for all California state colleges.

## APPLICATION FOR ADMISSION

1. Applications for admission to the college may be filed during the semester preceding the one in which the applicant expects to enroll.

2. The applicant must file the following completed official forms with the Admissions Office:

- (1) Application for admission (or readmission)
- (2) Health history record

These two forms may be obtained from the Admissions Office. Letters from applicants signifying intention to enroll will not be considered as applications for admission. The official forms must be filed.

3. The applicant should consult the calendar in this catalog for deadlines on filing of applications. **Applications received after the final date for filing of applications cannot be processed for admission.**

4. The applicant must file the following official transcripts with the Admissions Office:

- (1) Transcript from high school of graduation or last in attendance (not required of the graduate student who holds a bachelor's degree from an accredited institution)
- (2) Transcripts from **EACH** college attended (including extension or correspondence courses)
- (3) Photostat or true copy of the military separation form DD-214 (or equivalent) if applicant is a veteran
- (4) Duplicate set of all official transcripts if applicant is a graduate student planning to enter the master's degree program (this set of transcripts to be sent to the Graduate Office)

An official transcript is one sent directly between schools. The applicant must request the school or college to send the transcript to the Admissions Office, San Diego State College. All records or transcripts received by the college become the property of the college and *will not be released nor will copies be made.*

5. *A Test Reservation Card* for one of the tests listed below must be filed with the Admissions Office. The applicant should consult the calendar in this catalog for dates on which tests are given. Reservation cards may be obtained from the Admissions Office. Required tests must be completed before registration.

- (1) *Freshman Qualifying Examinations.* These examinations, consisting of a College Aptitude Test and an English Test, must be completed prior to acceptance for admission.
- (2) *College Aptitude Test.* This test is required of all undergraduate students transferring from other colleges with 12 or more units of advanced standing credit. Graduate students are not required to take this test, unless they are candidates for one of the teaching credentials. The test must be completed before registration.

6. Applicants entering the teacher education program must take tests required by the Education Department, in addition to tests required for admission to the college. The applicant must file a *Test Reservation Card* with the Education Department for one or both of the tests listed below. The applicant should consult the calendar in this catalog for dates on which these tests are given. Reservation cards may be obtained from the Admissions Office.

- (1) *Fundamentals Test*. This test is required of all teacher education candidates transferring from other colleges with 15 or more units of advanced standing credit, including graduate students.
- (2) *General Culture Test*. This test is required of all candidates for any of the secondary school credentials, in addition to the *Fundamentals Test*. The test is open to students transferring from other colleges with 45 or more units of advanced standing credit, including graduate students.

### ADMISSION OF HIGH SCHOOL GRADUATES

The code provides as follows:

"925. **High School Graduates.** For admission to a state college, a high school graduate, or other applicant who is judged by the appropriate college authorities to possess equivalent preparation, must, as a minimum, meet one of the following:

"a. Have completed the equivalent of seventy semester periods (7 Carnegie units) of course work, in subjects other than physical education and military science, with grades of A or B on a five-point scale during the last three years in high school.

"b. Have completed the equivalent of fifty semester periods (5 Carnegie units) of course work, in subjects other than physical education and military science, with grades of A or B on a five-point scale during the last three years in high school and attained the twentieth percentile on the national norm of a standard college aptitude test.

"An applicant who fails to meet these standards may be admitted, if in the judgment of the appropriate college authorities, he gives promise of being able to succeed in college.

"Admission to a state college shall be limited to the number of students for whom facilities and competent instructors are available to provide opportunity for an adequate college education. The Director of Education after consultation with the president of a state college shall determine the number of students for whom there are available facilities and competent instructors at the college."

NOTE: A Carnegie unit represents course work covering a school-year (or two semesters).

### HIGH SCHOOL PREPARATION

Students preparing to enter college are urged to consult their high school advisers and plan a program in high school that will prepare them adequately to pursue their chosen curriculum at the college level. The following high school courses are recommended as preparation for any college course leading to the bachelor's degree: English, 3 years; algebra, 1 year; geometry, 1 year; one foreign language, 2 years; American history and civics, 1 year; additional social science, 1 year; botany, chemistry, physics, physiology, or zoology, 1 year. Typing is a recommended elective.

Students preparing to enter the fields of natural science and engineering should include additional courses for specific majors. The following courses are recommended: chemistry and physics, 1 year credit in each field; advanced algebra, 1 year; trigonometry and solid geometry, 1 year; one modern foreign language, two years. Recommended electives: slide rule, mechanical drawing.

### ADMISSION BY EXAMINATION

The College Entrance Examination Board examinations in various subject areas are accepted in lieu of the corresponding high school record if scores on the examinations indicate probable college success, as determined by the Board of Admissions.

### ADMISSION OF ADULTS TO SPECIAL STATUS

The code provides as follows:

"926. **Adult Special Students.** An applicant who has attained the age of 21 years and is not a high school graduate may be admitted to the state college as an adult special student provided that he demonstrates to the proper college authorities, ability to profit from college work. If such a student completes with a grade point average of 1.0 (grade of C on a five-point scale) or better a program of 24



semester or 36 quarter units of residence work in basic courses leading to a degree, he shall not be required to remove entrance deficiencies."

NOTE: A revision of the grade point system at San Diego State College beginning with the school-year, 1956-57, changes the C grade average from 1.0 to 2.0 (For further information, refer to the section of this catalog on General Regulations).

### ADMISSION WITH ADVANCED STANDING

The code provides as follows:

**"928. Students Who Transfer From Accredited Degree Granting Colleges and Universities.** An applicant who has earned credit in accredited degree granting colleges and universities may be admitted to a state college if he meets standards as follows:

"(a) He must have a grade-point average of 1.0 (grade of C on a five-point scale) or better on the total program attempted, or

"(b) He may receive special consideration if he attains the twentieth percentile of the national norm of a standard college aptitude test provided that he must have been in good standing at the last college institution attended, and his previous record must be such that it would not disqualify him in the college to which he seeks admission.

"(c) A student who does not meet the above requirements may be admitted on probation, if in the opinion of the proper college authorities he can succeed in college."

**"929. Students Who Transfer From Unaccredited Colleges and Universities.** An applicant who has attended a nonaccredited college or university may be admitted to a state college if he meets the standards listed above for transfers from degree granting colleges and universities, but credit earned in nonaccredited colleges and universities may be counted toward graduation requirements only after he has earned 24 semester or 36 quarter units with at least a C average."

**"930. Students Who Transfer From Junior Colleges.** An applicant who has earned credit in a junior college may be admitted to a state college if he meets the standard previously listed in this article, except that in case the applicant was ineligible for admission to a state college on the basis of his high school record he must, as a condition to admission to a state college, have completed 24 or more semester units of college work with a grade-point average of 1.0 (grade of C on a five-point scale) or better in the total program attempted.

"Not more than 64 semester units may be allowed for credit earned in a junior college. No upper division credit may be allowed for courses taken in a junior college. No credit may be allowed for professional courses in education taken in a junior college."

**"931. Other Applicants for Admission With Advanced Standing.** An applicant who fails to meet the standards listed above in this article may be considered by the appropriate state college authorities for admission to the college on probation when the facts in the case seem to warrant such action."

NOTE: A revision of the grade point system at San Diego State College beginning with the school-year, 1956-57, changes the C grade average from 1.0 to 2.0 (For further information, refer to the section of this catalog on General Regulations).

### RECORDS TO BE FURNISHED

Any student applying for admission to this college must report all high school and college work undertaken by furnishing official transcripts from each school or college in which the student has ever been enrolled, including courses in extension and correspondence. No part of this work may be disregarded. Students failing to account for the complete high school and college record are subject to dismissal from college without honorable dismissal.

Applicants for admission who have had active military service in the United States armed forces must furnish this college with a photostat of the military separation form DD-214, or equivalent records, in order to receive credit for military service or be certified by the college to the Veterans Administration as fully matriculated students eligible to apply for veteran benefits.

Any transfer student who has earned in college 45 semester units or more may apply for an evaluation of his record. If an official evaluation is desired, the application and all official transcripts and records must be on file at least 30 days prior to the beginning of any semester or summer session. An unexpected increase in enrollment may cause a delay beyond 30 days in completing an evaluation.

## ADMISSION TO GRADUATE STUDY

**For Students in Summer Sessions and Campus Evening Sessions.** Graduate students registering in summer sessions or in the campus evening session for six units or less are not required to obtain full admission to the college. See Graduate Status and Graduate Special Status, below. Exception: All graduate students registering under P.L. 550 are required to gain full admission to the college.

**Graduate Status.** Students desiring graduate credit must be granted graduate status. Such status is granted to students who have filed official transcripts in the Office of Admissions as evidence of their possession of an acceptable bachelor's degree from an accredited institution.

**Graduate Special Status** will be granted to students whose bachelor's degree was earned at a nonaccredited college. (Such students may be granted graduate status when they have earned a grade point average of 2.5 on 12 or more units of approved upper division work at this college and have cleared all undergraduate deficiencies.)

**Special Status.** Special status will be granted to students who have not filed transcripts showing evidence of possession of a bachelor's degree. (Students with special status may be granted graduate status when such transcripts are filed, and graduate credit will then be granted for graduate work taken after the date of the bachelor's degree.)

**For Other Students.** Graduate students wishing to enroll in courses other than in summer sessions or in the campus evening sessions, or for more than six units, are required to gain full admission to the college. The California Education Code provides as follows:

932. *Admission with Graduate Standing.* A student may be admitted to a state college with graduate standing upon the basis of standards as follows:

"(a) The applicant must have completed a four-year college course with an acceptable baccalaureate degree from an accredited institution or must have completed equivalent training as determined by the appropriate state college authorities, and

"(b) He must have evidence of the possession of such other qualifications as the receiving college may prescribe, such qualifications to include appropriate scholastic, professional, and personal standing, and the passing of any required examination."

For admission to the college, the student must file with the Office of Admissions an official application for admission and official transcripts from each college attended. The student who has obtained his bachelor's degree from San Diego State College must file an application for readmission in order to be admitted to the graduate program. The graduate student who gains full admission to the college is automatically granted either graduate status or special graduate status (see above).

## CAMPUS EVENING SESSION PROGRAM

In order to meet the needs of adults in the community for work on the college level, a Campus Evening Session program offers some courses in the late afternoon and evening. These include both undergraduate and graduate courses and carry full college residence credit. Classes offered under this program are part of the regular college offerings and are taught by faculty of the college, but moved to a late afternoon or evening hour to permit in-service teachers, public personnel, businessmen, and others to attend. A special Evening Program Bulletin describing the current offerings, eligibility for admission, and procedures for registration is issued each semester and may be obtained upon request from the office of the Coordinator of the Evening Program.

## EXTENSION PROGRAM

In order to serve more adequately the needs of the community, the college cooperates with off-campus organizations and groups in arranging extension classes in response to expressed needs when the group is sufficiently large to finance the instruction. Offerings are made each semester in a number of departments including education, business administration, and the arts and sciences. Classes may be organized at various points within San Diego and Imperial Counties. A minimum of 15 to 20 students is usually required in order to establish a class. The usual class carries



two units of credit and meets once a week, either in the late afternoon or evening. The minimum basic fee is \$7.50 per unit. Interested persons desiring detailed information regarding organization of classes or current offerings should communicate with the Extension Office.

### SUMMER SESSION PROGRAM

San Diego State College conducts two summer sessions both of which offer credit applicable to graduation and residence requirements. During the six-week Term I session, six units of academic credit may be earned; and during the three-week Term II session, three units may be earned. The tuition fee for Summer Session work is \$8.50 per semester unit or fraction thereof. Information concerning course offerings and special workshops may be obtained by communicating with the Summer Sessions Office. A Summer Session Bulletin is available during the month of May.

### REGISTRATION REQUIREMENTS

Students who receive notice that they are eligible for admission to the college must complete additional requirements for registration, such as clearance of residency status, completion of prescribed tests and examinations, payment of fees, and the keeping of other designated appointments as outlined in the *Class Schedule and Instructions for Registration*, a publication issued prior to the beginning of each semester.

#### RESIDENCY STATUS CLEARANCE

Each student enrolling in the college must be classified as a resident or nonresident student, prior to the payment of registration fees. The Residency Status Office will issue instructions to the applicant on the procedure to follow in obtaining residency classification. Specific instructions will be found in the *Class Schedule and Instructions for Registration*, which is issued prior to the beginning of each semester. Applicants for the Evening Program only will find instructions on procedure to follow in obtaining residency classification in the *Evening Program Bulletin*, which is also issued prior to the beginning of each semester.

The residency classification received by any student is subject to review and change. Each student is held responsible for notifying the Residency Status Office of any change in his legal status as a resident of California.

#### TESTS AND EXAMINATIONS

1. **A chest X-ray and medical clearance** from the health services office are required of all students entering or re-entering the college after an absence of more than one semester, except that students enrolled in the Campus Evening Session Program only are not required to meet these requirements. Appointments for the chest X-ray and medical clearance are scheduled during the testing and advising period and are part of the required registration procedures.

2. **College Aptitude Test.** All entering students are required to take a college aptitude test as prescribed by this college. This test is scheduled at various times during the year and must be completed prior to registration. Entering freshman will take this test as part of the freshman qualifying examinations. Refer to the calendar in this catalog for dates on which this test and the qualifying examinations are given.

3. **Competency Tests for English, Mathematics, and Speech.** A competency test for English is required of all entering freshmen and students transferring with advanced standing who have not previously met this competency requirement by completion of an appropriate course in another college. This English test is included in the freshman qualifying examinations and must be completed prior to registration. The competency test for mathematics is offered each semester and may be taken after the student has enrolled in the college. The competency test in speech is given in the required course, Speech Arts 3, to all students enrolled in the course. Remedial courses for credit are established for students failing these tests. Refer to the calendar in this catalog for the dates on which the qualifying examinations are given; refer to the *Class Schedule and Instructions for Registration* for dates on which the mathematics test is given. The class schedule is available at the beginning of each semester.

**4. Teacher Education Tests.** Candidates for admission to teacher education are required to complete the teacher education tests as prescribed by the Department of Education. For further information, refer to the section of this catalog on admission to teacher education and to the calendar for dates on which these tests are given.

### REGISTRATION AND PAYMENT OF FEES

**Registration Priority.** Each student is assigned a registration number which determines the order in which he registers and pays fees. Entering freshmen are assigned registration numbers on basis of the high school scholastic grade record; students entering with advanced standing are assigned registration numbers on basis of the number of units completed. Freshmen with the higher grade records and transfer students with the greater number of units earned are given the earlier opportunity to register and pay fees. The schedule for registration and payment of fees is published in the *Class Schedule and Instructions for Registration*, which is issued prior to the beginning of each semester.

**The Student's Program.** Following the registration and payment of fees, the student obtains program advising with a faculty adviser, arranges his program of courses, and reserves his classes. He then attends classes, beginning with the first class meeting, as announced in the *Class Schedule and Instructions for Registration*. During the first week of classes, the student may rearrange his program if he finds it necessary. At the end of the first week of classes the student files his completed official study list of courses, thereby completing his registration. Fees are charged for late registration, changes of program after the student has filed his official study list of courses, and for failure to meet other administrative deadlines.

### AUDITORS

**Enrollment as an Auditor.** Students who are admitted to the college as fully matriculated students may attend classes as auditors, without being required to take the course for credit. Auditors pay the same fees and have the same privileges as do students who take equivalent work for credit. Except in the Campus Evening Sessions, which are open to adults without requirements for matriculation, any student wishing to take a course in the college as an auditor must comply with all regulations and procedures for regular admission to the college and meet the qualifications for admission.

**Auditor and Change of Program.** A student enrolled in a course for "audit" who wishes to change his program to "credit" or who is enrolled in a course for "credit" who wishes to change his program to "audit" must apply for this change of program at the Registrar's Office within the time allowed for changes of program and with appropriate approval. Refer to the calendar in this catalog and to the *Class Schedule and Instructions for Registration*, which is published prior to the beginning of each semester, for information on dates of withdrawal from classes and instructions on changes of program.

### LATE REGISTRATION

To be eligible for late registration, a student must have completed all requirements for admission to the college within the time limits permitted for the filing of applications and other official forms, the taking of required tests, and the filing of all official transcripts. Refer to the section of this catalog on Admission and Registration for specific information. If the student who has met all these requirements is unable to complete registration on the regularly scheduled registration days, an extension of the time for registration is permitted through late registration procedures. Refer to the calendar in this catalog for admission and registration deadlines and to the *Class Schedule and Instructions for Registration*, which is published prior to the beginning of each semester, for specific instructions on late registration. A fee of \$2 is charged for late registration.

### CHANGES IN REGISTRATION

A student is responsible for any change in his program after the official study list has been filed. Forms for changes in program must be secured at the Registrar's Office. A fee of \$1 is charged for a change in program.



# GENERAL REGULATIONS

## INFORMATION

Students are held individually responsible for the information contained in these pages. Failure to read and comply with these deadlines and regulations will not exempt a student from whatever penalties he may incur.

## NUMBERING OF COURSES

Courses numbered 1 through 99 or by letters (A, B, C, etc.) are in the lower division (freshman and sophomore years); those numbered 100 through 199 are in the upper division (junior and senior years); and those numbered 200 through 299 are graduate courses in the graduate study program. Courses numbered 300 or over are professional education courses in the graduate study program.

## UNITS OF WORK

A unit of credit represents 50 minutes of lecture or recitation combined with two hours of preparation per week through one semester, or three hours of laboratory or field work in the case of laboratory credit.

## CLASS RANK IN COLLEGE

Students who have completed 0 to 29 units of work are classified as freshmen; 30 to 59 units as sophomores; 60 to 89 units as juniors; and 90 or more as seniors.

## GRADES AND GRADE POINTS

The following grades and grade points are used in reporting the standing of students at the end of each semester:

- A, Excellent—4 grade points (Prior to September 1956, 3 grade points)
- B, Good—3 grade points (Prior to September 1956, 2 grade points)
- C, Average—2 grade points (Prior to September 1956, 1 grade point)
- D, Passing—1 grade point (Prior to September 1956, 0 grade points)
- F, Failure—0 grade points (Prior to September 1949, minus 1 grade point)
- I, Incomplete—0 grade points (Prior to September 1956, not counted in student's grade average)
- Cr, Credit (not counted in grade average, but units allowed)
- WP, Withdrawal-Passing (not counted in grade average)
- WF, Withdrawal-Failing (0 grade points for units attempted)

The number of grade points a student has earned in a subject is determined by multiplying the number of points he has received by the number of units attempted. The grade point average is determined by dividing the number of grade points earned by the number of units attempted.

A student must earn at least a C average (2.0) in all college work attempted and in all courses taken at San Diego State College to qualify for a bachelor's degree or a transcript of record with recommendation to another collegiate institution. (Prior to September 1956, a C grade average was 1.0 on the three point grading scale).

## INCOMPLETE GRADE

One calendar year beyond the end of the term when an incomplete grade is assigned will be allowed for making up the incomplete. After the time has lapsed, the student may not make up the work, but may repeat the course if he desires. The incomplete remains on the permanent record as units attempted and no grade points. This regulation does not apply to the theses courses numbered 299 which are not counted as units attempted until the final grade has been assigned, provided that the course be completed within the time permitted by the Graduate Study Office.

## REPEATED COURSES

A student may repeat a course in which he has received a grade of D or F, but may not receive credit for the course more than once. A repeated course is counted as units attempted and is credited with the grade points earned, the effect being an averaging of the grades. If a student repeats a course in which he has received a grade higher than D, the repeated course will not be counted as units attempted nor will grade points be counted in the student's record.

## STUDY LIST LIMITS

A normal semester's program is 16 units. A student may carry up to 17½ units with the permission of his adviser. Greater variations must be approved by the Dean of Instruction.

Students who enroll for more units than authorized, including concurrent college courses taken outside this college, will not receive graduation credit for the excess units.

No student may register for less than 12 units (the minimum full-time load) without the approval of a dean or authorized representative.

## CHANGE OF MAJOR FIELD

At the time of admission to the college, each student is assigned to a major field. Any student wishing to change his major field after registration must make application at the Personnel Services Center. Veterans using veteran benefits must obtain appropriate approval from the Veterans Administration for necessary changes in letters of eligibility.

## PROBATION AND DISQUALIFICATION

### PROBATION

Any student whose scholarship record falls below a C average (2.0) for all college work attempted or all college work attempted at San Diego State College will be placed on probation.

Probation may be continued provided that the student obtains a C average or better each semester while on probation. The student will be removed from probation when he has attained a C average or better on all college work attempted and on all college work attempted at San Diego State College.

### DISQUALIFICATION

**Disqualification for Scholarship.** Any student on probation whose scholarship falls below a C average (2.0) in any single semester or summer session will be disqualified from further attendance at the college.

Veterans who are disqualified from further attendance at this college forfeit their rights to veteran benefits. Specific information should be obtained from the Veterans Administration regarding continuance of education.

**Reinstatement After Disqualification.** A disqualified student may be reinstated for reasons satisfactory to the Board of Admissions. Applications for reinstatement must be made on forms which may be obtained at the Admissions Office. Students petitioning for reinstatement are required to have personal interviews with members of the Board of Admissions.

## WITHDRAWALS AND CHANGES OF PROGRAM

**Official Withdraw or Change of Program.** A student withdrawing from college or from a class must file an official withdrawal form or change of program form with the Registrar. Forms may be obtained at the Registrar's Office.

**Withdrawal Deadline Dates and Penalties.** If a student officially withdraws from college or from a class by the end of the fourth week of the semester (includes the regular registration week), a grade of WP (withdrawal passing) will be recorded upon his permanent record for each class from which he has withdrawn. If he withdraws after the fourth week and not later than the end of the twelfth week of the semester, either a WP or WF (withdrawal failing) will be recorded, depending upon whether he is passing or failing the course on the date of filing the request for withdrawal. (WF is equivalent to a failing grade.) After the twelfth week, withdrawal from a class is not permitted. A final grade will be recorded for each class



for which the student is enrolled. Withdrawal from college (that is, from all courses) will be permitted up to the beginning of the final examination schedule; however, the student will receive a WP or WF grade in each class, depending upon whether he is passing or failing in the class on the date of filing his request for withdrawal from college.

**Unofficial Withdrawal.** A student unofficially withdrawing from class or from college will receive failing grades in all courses from which he unofficially withdraws. An unofficial withdrawal is one in which a student stops attending classes without filing official withdrawal forms within the deadlines established for withdrawing.

#### WITHDRAWAL TO ENTER MILITARY SERVICE

A student withdrawing from college to enter military service is entitled to apply for refund of materials and service fees or for partial credit (but not both). One-third credit is allowed for completion of the first six weeks of the semester, or two-thirds credit for completion of the first 12 weeks of the semester, in courses for which the student is enrolled and in which he is passing at the time of withdrawal. Entrance upon extended active military duty must be without unreasonable and unnecessary delay (normally 30 days) after the date of withdrawal from college to qualify the student for refund or partial credit. A student electing to receive a refund of materials and service fees or electing partial credit must file official verification of the date of entry upon *extended active duty*.

#### MID-SEMESTER REPORTS TO STUDENTS

Following the close of the seventh week of instruction (eighth week of the semester), reports are sent to students who are doing unsatisfactory work. These reports are optional with an instructor. Students should be aware of their progress in a course and not depend upon receipt of formal notice if work is unsatisfactory.

#### TRANSCRIPTS OF RECORD

An official transcript of record may be obtained by filing an application for transcript at the Registrar's Office. A fee of \$1 is charged (first copy free). One week should be allowed for the processing and mailing of the transcript. Transcripts sent from one college to another are considered as official. Transcripts presented by a student to a college are considered to be unofficial and are usually not accepted.

Once a student has matriculated in this college or has had an official evaluation made, transcripts from other schools or colleges become the property of this college and *will not be released nor will copies be made*.

At the end of each semester or summer session in which the student is enrolled, an unofficial transcript showing the cumulative record is sent to the student.

#### EVALUATIONS

An evaluation is a summary of college work completed and of requirements to be completed for a degree or credential. To be eligible for an evaluation, a student must have completed at least 45 units of acceptable college work and be qualified for full matriculation. Transfer students with 45 units or more who enroll in the college will automatically receive an evaluation, which is available at the time of registration and advising. Authorization for more than one evaluation during any one semester or one evaluation in nine weeks of summer session requires special permission of the Board of Admissions and Evaluations.

A student who has earned 45 semester units or more, who has not received an evaluation, should apply at the Evaluations Office for an official evaluation. The evaluation is made on the regulations in effect at the time the student entered this college, provided that he has been in uninterrupted attendance as a full-time student at this college; otherwise, the evaluation is made on regulations currently in effect at the time the evaluation is made. A student remaining in continuous attendance in regular sessions and continuing on the same curriculum in the college may, for purposes of meeting graduation requirements, elect to meet the graduation requirements in effect either at the time of his entering the curriculum or at the time of his graduation therefrom, except that substitutions for discontinued courses may be authorized or required by the proper college authorities.

All evaluations are subject to changes imposed upon the college by the State Board of Education. After an interval of five years from the time an evaluation is made, courses in education to be applied toward a teaching credential are subject to re-evaluation.

### ELIGIBILITY FOR DIRECTED TEACHING

Only students who have earned full admission to the teacher education program shall be eligible for directed teaching. For details, refer to the section of this catalog under Admission to Teacher Education.

### THE HONORS PROGRAM

Any student who at the end of the sophomore year has either attained an over-all grade point average of 3.5 or who has attained a grade point average of 3.75 in his major and not less than 3.0 in fields outside his major, and who has received the approval of his department or departments, may elect the honors program. Such election will enable the student to pursue a special program as outlined below. Any student who feels that his qualifications approximate closely the scholarship standards stated above may request admission to the honors program, subject to the approval of his department or departments, and the Committee on Honors.

Any student who wishes to apply for entrance into the honors program may do so by filling out cards to be obtained from the Registrar's Office. The application should be approved by the 10th calendar day following the first day of instruction. Units earned by students doing individual study under this plan will be recorded under the symbol 166 and will be subject to the formulated rules dealing with limitations of student load.

Students in the honors program, so far as the facilities of the department and the best interests of the students under its charge allow, shall be treated as benefits their individual needs and as their individual capabilities warrant. They shall be eligible to enroll in honors or special study courses, credit in such courses to be limited to six units per semester unless otherwise recommended by the major department or departments and approved by the Honors Committee. In addition, they shall not be held to regular attendance in the established courses of their departments if, in the opinion of the instructor, the objectives of such courses can be achieved through special assignments and examinations. With the consent of the major department or departments, requirements concerning minors and specific courses or sequences in the major may be modified. Each honor student shall be assigned to a member of his major department for advice and direction.

Students in the honors program who fail to take advantage of the opportunities there offered may at the end of any semester be required to withdraw from the honors program upon notification of the major department or departments. Students not in the honors program who show unusual capacity, may request to be transferred to the honors program contingent upon recommendation of the department and the Committee on Honors at the end of any semester.

### DEGREE WITH HONORS

With the approval of the faculty, graduation with honors shall be granted to those students in each graduating class who have done highly superior work as shown by high grade point averages.

### DEGREE WITH DISTINCTION IN THE MAJOR

Upon recommendation of his major department and with the approval of the faculty, a student doing superior work in his major field may be graduated with distinction in that field.

### FINAL EXAMINATIONS

No final examination shall be given to individual students before the regular time. Any student who finds it impossible to take a final examination on the date scheduled must make arrangements with the instructor to have an incomplete grade reported and must take the deferred final examination within the time allowed for making up incomplete grades.



### CREDIT BY EXAMINATION

Credit may be earned by examination under the following conditions: (1) the student must be a fully matriculated bona fide resident student enrolled in a regular semester at the college at the time the examination is administered; (2) approval to take the examination must be obtained from the Dean of Instruction and from the chairman of the department concerned, prior to the administration of the examination; and (3) the student must pay the additional fees, if needed, to qualify as a regular student.

### CREDIT FOR EXTENSION COURSES

The maximum amount of extension credit which may be accepted toward the minimum requirements for the bachelor's degree is 24 semester units, not more than 12 of which may be transferred from another college or university except that courses taken through the United States Armed Forces Institute, or other official military correspondence schools, shall not be included within these limits. The term "extension credit" refers to both extension class work and work taken by correspondence. Extension credit does not count in satisfaction of the minimum residence requirement. **Extension courses are not accepted for credit toward the master's degree.**

### CREDIT GRANTED FOR MILITARY SERVICE

The college is guided by the recommendations of the American Council on Education in granting undergraduate credit toward the bachelor's degree for military service. Postgraduate credit is not granted.

To obtain credit for military service, the student must be fully matriculated and enrolled in the college and must file a photostat of the military separation form DD-214, or equivalent official records. These records should be submitted at the time of applying for admission to the college.

### TRANSFER TO GRADUATE SCHOOLS

Attention of students who plan to transfer to the graduate school of the University of California is called to the fact that the university reserves the right to evaluate and possibly reduce the credit in certain work in which this college has given credit toward the baccalaureate. Examples of such work would be credit for nurse's training, credit transferred from certain foreign schools, certain vocational courses in junior colleges, credit for military service, and courses in this college of a nonacademic nature.

# THE MASTER'S DEGREE

## THE MASTER OF ARTS DEGREE

### NATURE OF THE DEGREE

The master of arts degree is offered at San Diego State College in the field of teaching and for other teaching and supervisory services. Students receiving the degree for school service must hold a valid regular day school service California credential other than a provisional credential; or be a foreign citizen preparing to teach in foreign countries; or be a licensed teacher from another state with one year of experience. The master of arts degree is also offered in specified curricula for approved applicants preparing to teach in institutions not requiring teaching credentials, provided that a minimum of 12 units in professional education be included in their graduate year. Students may elect to concentrate in a subject matter major, in education, or in personnel supervision and training. The following areas of concentration are now available:

*Teaching Majors.* Art, business education, chemistry, English, foreign language (Romance Language, French, and Spanish), health and physical education, history, industrial arts, life science (botany and zoology), mathematics, music, physics, social science, and speech arts.

*Education.* Audio-visual education, elementary education, secondary education, elementary administration, secondary administration, elementary supervision, secondary supervision, pupil personnel services, and special education.

*Psychological Service.* Psychology and educational psychology.

*Personnel Supervision and Training.* For instructional and supervisory service in business, government, and industry.

### REQUIREMENTS

Students who meet the following requirements are eligible for graduation with the master of arts degree:

- A. A minimum of 30 units of approved graduate work beyond the bachelor's degree. Thirty units must be completed within the seven year period immediately preceding the date when all of the requirements for the degree are completed. For justifiable reasons, the college may extend this period.
- B. 24 units in residence at San Diego State College.
- C. A grade point average of 3.0. Only grades of A, B, and C are acceptable toward the degree. (Marking system: Grade of A, 4 grade points; B, 3 grade points; C, 2 grade points; D, 1 grade point; F, 0 grade point.)
- D. Completion of the requirements for an approved California teaching credential, or the holding of one, such as the general elementary, general secondary, junior high, and special secondary school credentials, or the school psychometrist credential (which will be discontinued on September 15, 1956); or be a foreign citizen preparing to teach; or be a licensed teacher in another state, with verification of one year of successful teaching experience; or be preparing to teach or supervise in an institution which does not require a credential, provided the work is taken in such a curriculum as offered by this college.
- E. Satisfactory completion of the candidate's degree program as approved by the Graduate Council.
- F. Satisfactory completion of a thesis or project, except in business education, education, and foreign language, which require a comprehensive examination if Plan B is selected. (Refer to paragraph D under General Regulations below.)



## THE MASTER OF SCIENCE DEGREE

### NATURE OF THE DEGREE

The master of science degree offered at San Diego State College is designed to increase the candidate's occupational competency and his ability for continued self-directed study. The degree is available with the following majors: Applied chemistry, applied mathematics, applied physics, business administration, psychology, and public administration.

The master of science degree with majors in applied chemistry, applied mathematics, and applied physics provides opportunity for graduate study in scientific and technical occupational areas in industry and in civil service agencies.

The master of science degree with a major in business administration is designed for students seeking a broad graduate education in business or specialized preparation in a number of business fields such as accounting, banking and finance, industrial management, insurance, marketing, and personnel management.

The master of science degree with a major in psychology is offered for students wishing to prepare for psychological services in business, industry, and government such as employment counseling, industrial psychology, personnel counseling, personnel research analysis, psycho-physiology, public opinion analysis, test construction, and other psychological services.

The master of science degree with a major in public administration is designed for students who wish to prepare for public service and for those in public service who desire to do advanced study. The program offers a broad education in basic administrative knowledge, political science, and related social science fields.

### REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE

Students who meet the following requirements are eligible for graduation with the master of science degree.

- A. A minimum of 30 units of approved graduate work beyond the bachelor's degree, plus the satisfactory completion of six units of directed field experience courses, except that such courses may be waived if the candidate's professional work experience is judged adequate both in quantity and quality. All 30-36 units must have been earned within the seven-year period immediately preceding the date when all of the requirements for the degree are completed. For justifiable reasons, the college may extend this period.
- B. Twenty-four units in residence.
- C. A grade point average of 3.0. Only grades of A, B, and C are acceptable toward the degree. (Marking system: Grade of A, 4 grade points; B, 3 grade points; C, 2 grade points; D, 1 grade point; F, 0 grade points.)
- D. Satisfactory completion of the candidate's degree program as approved by the Graduate Council.
- E. Satisfactory completion of a thesis or project is required in business administration, psychology, and public administration. In applied chemistry, applied mathematics, and applied physics, students may elect Plan B, which requires a comprehensive examination. (Refer to paragraph D under General Regulations below.)

### ADMISSION TO GRADUATE STUDY

- A. Graduate status may be granted to applicants who have filed official transcripts at the Office of Admissions as evidence of their possession of a bachelor's degree from an accredited institution. (Two transcripts must be filed by students who expect to become candidates for the master's degree.)
- B. Provisional admission to graduate study (graduate special status) may be granted to one who holds a bachelor's degree from a nonaccredited college. Such a student will be eligible for graduate status when he has earned a grade point average of 2.5 on 12 or more units of approved upper division work at this college and has cleared all undergraduate deficiencies. Special status may be given also to students who have not yet filed official transcripts of their bachelor's degree work.
- C. Apply at the Office of Admissions for admission to the college. For further details, refer to the section of the catalog on admission and registration.

## ADMISSION TO CANDIDACY FOR THE DEGREES OF MASTER OF ARTS AND MASTER OF SCIENCE

In addition to holding graduate status, a candidate for the master's degree must qualify as follows:

- A. Apply for admission to candidacy at the Graduate Office at the beginning of the first graduate term in attendance. Admission cannot be completed, however, until the student has earned 12 units at San Diego State College, or six units if he was graduated from San Diego State College with an undergraduate grade point average of 2.5 or better.
- B. File with the Graduate Office a complete program of study, which has been approved by the adviser.
- C. Earn and maintain a grade point average of 3.0 on graduate work.
- D. Satisfactorily complete (a) a scholastic aptitude test for graduates, and (b) such departmental and scholastic achievement tests as may be required.
- E. Receive approval of the appropriate department or interdepartmental committee.

### GENERAL REGULATIONS

- A. Extension and correspondence courses are not acceptable toward the degrees.
- B. Maximum study load: summer session, one unit per week of attendance; fall or spring, 15 units per semester of full-time attendance when one 200 numbered course (or more) is included. Students employed full time may take a maximum of six units of graduate work.
- C. All candidates who are taking the master of arts degree with school service credentials must complete two units in Education 290 and one additional unit (or more) in a course in bibliography (290) in the major department. Candidates preparing to teach or supervise in institutions that do not require a credential will substitute an approved course in procedures of investigation and report.
- D. Plan A is available to all majors in which the master's degrees are offered. Three units of credit are granted for the project or thesis upon its acceptance by the committee. Plan B is available for the master of arts degree in business education, education, foreign language; and for the master of science degree in applied chemistry, applied mathematics, and applied physics. Under Plan B a project or thesis is not required, but the candidate must pass a comprehensive examination. Candidates in education must pass the comprehensive examination to become eligible to take Education 295A-B, a writing seminar required in their major concentration. Candidates choosing Plan B should secure dates of comprehensive examinations from their respective departments.
- E. The minimum requirement for a concentration in a major shall be: (1) eight units of courses numbered 200-299, which may include credit for a project or thesis and one unit in bibliography (except in English which requires two units), and (2) six additional units in the major or an approved related field, selected from upper division or graduate courses. Candidates for the master of arts degree who are preparing to teach or supervise in institutions which do not require a teaching credential must take 12 units in education courses.
- F. 12 units of work must be earned after admission to candidacy.
- G. A minimum of 10 units must be in courses numbered 200-299.
- H. Candidates will not be permitted to register for the thesis or project (299) until they (1) have received official notice of admission to candidacy and (2) have an officially appointed thesis committee.
- I. A project or thesis, when required, must be completed four weeks in advance of the date of the convocation at which the degree is to be conferred.
- J. An application for graduation must be filed at the Graduate Office four weeks before the date of graduation.
- K. It is the student's responsibility to complete the specific courses listed on his signed program. Substitutions on the official program must be approved in writing by the adviser and recorded in the Graduate Office.
- L. Candidates are advised to keep in touch with the Graduate Office concerning specific requirements for the typing of the project or thesis and final dates for submitting bound copies, dates of graduation, and other routine procedures concerning the degree.



# GENERAL REQUIREMENTS FOR THE BACHELOR OF ARTS AND BACHELOR OF SCIENCE DEGREES

## TYPES OF CURRICULA

San Diego State College offers the following types of curricula:

- (1) Teacher education, leading to a degree and/or teaching credential.
- (2) Arts and Sciences curricula, leading to a degree.
- (3) Occupational curricula, leading to a degree or certificate.
- (4) Preprofessional curricula, leading to admission to professional schools.

## GRADUATION REQUIREMENTS

(a) A minimum of 124 semester units for the A.B. degree or 128 to 132 semester units for the B.S. degree, representing a four-year college course, is required for graduation.

(b) A minimum of 24 semester units must be earned in residence, at least 12 of which must be completed among the last 20 semester units counted toward the degree. Credit in summer sessions may be counted on a unit for unit basis toward this requirement.

(c) At least a C average (2.0) in scholarship is required in all college work attempted, in all work taken at this college, and in all upper division work in the major field.

(d) At least 40 upper division units are required for the A.B. degree or at least 36 upper division units for the B.S. degree.

(e) The state requirements in American history, institutions, and ideals, United States Constitution, and California state and local government must be completed for the bachelor's degree.

(f) All requirements in general education, the major and minor fields and any other requirements made by the college must be completed for graduation.

## TESTS IN ENGLISH, MATHEMATICS, AND SPEECH

Each student must demonstrate competence in the use of English, mathematics, and speech as determined by tests administered by the college. Students failing to pass these tests satisfactorily are required to enroll in special remedial courses designated by each department concerned. Passing the tests or completion of designated courses is a requirement for graduation.

## AMERICAN HISTORY, INSTITUTIONS AND IDEALS, UNITED STATES CONSTITUTION, AND CALIFORNIA GOVERNMENT

Each student of a state college to qualify for graduation shall demonstrate competence in the Constitution of the United States, and in American history, including the study of American institutions and ideals, and of the principles of state and local government established under the Constitution of this State, by completing appropriate courses, or by passing a comprehensive examination on these fields prepared and administered by each college. Students transferring from other institutions of collegiate grade, who have already met this requirement in college, shall not be required to take further courses or examinations therein.

This graduation requirement may be fulfilled by any one of the following alternatives:

- (1) By satisfactory completion of one of the following groups of courses:
  - (a) History 17A and 17B
  - (b) History 172A and 172B
  - (c) Political Science 71A and 71B
  - (d) Political Science 139A and 139B

(2) By satisfactorily passing a comprehensive examination in each of the following areas:

- (a) American history, institutions and ideals
- (b) United States Constitution
- (c) California state and local government

Students electing to remove requirements through examination may obtain a bibliography of suggested reading at the Evaluations Office in the Administration Building. Examinations for removal of these requirements are given once each semester and in Term I summer session.

(3) By satisfactory completion of a combination of courses or combination of courses and examinations in the required areas.

Students electing to remove requirements through a combination of courses or combination of courses and examinations should select courses from those listed below:

<i>Courses meeting requirements in American History</i>	<i>Courses meeting requirements in U. S. Constitution</i>	<i>Courses meeting requirements in California Government</i>
History 8A and 8B	Political Science 115	Political Science 71B
History 176A and 176B	Political Science	Political Science 107B
History 179A and 179B	107A and 107B	Political Science 115
History 181A and 181B	History 17A	Political Science 139B
	History 172A	Political Science or Journalism 142
		Political Science or Journalism 143
		History 8B
		History 17B
		History 172B
		History 189

#### LOWER DIVISION AND UPPER DIVISION COURSES

A student is considered to have lower division standing until he has earned 60 semester units, at which time he attains upper division standing.

Courses numbered 1-99 are lower division courses; courses numbered 100-199 are upper division courses.

A student with lower division standing is not eligible to take upper division courses, with the following exceptions: A student in the last semester of his sophomore year who is approaching upper division standing carrying sufficient lower division units to complete the required minimum of 60 units may carry upper division units for the remainder of his study load. A student with sophomore standing may carry upper division courses for upper division credit provided that he has the written approval of the chairman of the department and the Dean of Instruction. This written approval must be filed in the Office of the Registrar on the form "Adjustment of Academic Record." Blank forms may be obtained by the student at the Evaluations Office.

#### GENERAL EDUCATION REQUIREMENTS

Forty-five semester units in courses designated in the college catalog and in the schedule of classes as general education must be completed in addition to courses in the major field, unless such courses are ones specifically required of all students as part of the general education program. These courses must be selected from the fields listed below with completion of the minimum number of units required and not exceeding the maximum number of units allowed in each field in order to satisfy the requirement of 45 units in general education. The pattern requirements in general education may be fulfilled by examinations with an accompanying reduction in the 45 units but without course credit. Permission to take such examinations must be obtained from the Dean of Instruction.

General education courses may be found in the section of the catalog under Announcement of Courses. The course numbers are preceded by an asterisk (\*).

For specific explanation of the requirements within each field of general education, refer to the explanation of requirements below.



	<i>Minimum</i>	<i>Maximum</i>
(a) Social Sciences .....	9	12
(b) Natural Sciences .....	9	12
(c) Literature, Philosophy, and the Arts .....	6	12
(d) Communication:		
Oral Communication .....	2	2
Written Communication .....	3	6
(e) Psychology .....	3	6
(f) Physical and Health Education:		
Physical Education .....	2	2
Health Education .....	2	2
(g) Mathematics .....	0	6
(h) Foreign Languages .....	0	6
(i) Family Life Education .....	0	6
(j) Air Science .....	0	6
Total number of units required .....		45

**EXPLANATION OF REQUIREMENTS**

(a) **Social Sciences.** A minimum of nine or maximum of 12 units must be selected from the general education social science courses listed below, with at least three units in each of two or more fields. Included in the selection should be courses which meet the graduation requirement in U. S. history, Constitution, and California state and local government. The student should also refer to the requirements in his major field before selecting general education social science courses from the following lists:

Anthropology 1A-1B, 54, 152,  
165

Geography 2, 12A-12B, 151,  
152, 153

Political Science 1A-1B, 71A-  
71B, 105, 107A-107B, 111A-  
111B, 112, 115, 138, 139A-  
139B, 168-S, 170A-170B

Economics 1A-1B, 102, 111,  
131, 170

History 4A-4B, 8A-8B, 17A-  
17B,, 121A-121B, 172A-172B,  
179A-179B

Sociology 35, 50, 51, 110, 135,  
145

(b) **Natural Sciences.** A minimum of nine or maximum of 12 units must be selected from general education courses in the natural sciences. At least one general education course of not less than three units must be selected in the life sciences (biology) and at least one course of not less than three units in the physical sciences (astronomy, chemistry, Geography 1 or 3, geology, physical science, and physics). At least one unit of either physical or life science or the three-hour equivalent must represent laboratory work. Before selecting a course, the student should read the course description to determine whether there are exclusions or limitations in applications of the credit. He should also refer to the requirements in his major field before selecting general education natural science courses from the following lists:

*Life Sciences*

Nonlaboratory courses:

Biology 1, 161  
Oceanography 100  
Zoology 165

Laboratory courses:

Biology 3, 4

*Physical Sciences*

Nonlaboratory courses:

Astronomy 1, 2, 105  
Geography 1 or 3 (but not  
both)  
Geology 2, 4  
Oceanography 100  
Physical Science 1, 2, 5, 130,  
150  
Physics 2A, 2B

Laboratory courses:

Astronomy 9  
Chemistry 2A, 2B  
Geology 3  
Physics 3A, 3B, 5

(c) **Literature, Philosophy, and the Arts.** A minimum of six or maximum of 12 units must be selected from general education courses in literature, philosophy, and the arts. At least one course of not less than three units must be selected in literature or in philosophy from courses in English, comparative literature, or philosophy. Twelve units may be concentrated in these fields, but not in the arts. Courses in the arts must be selected from the fine arts, including aesthetics, art, and music, or from the practical arts. A maximum of three units may be counted in the practical arts toward general education. Selection should be made from the following general education courses:

*Literature and Philosophy*

Comparative Literature 52A-52B, 101A-101B, 104A-104B, 115, 138, 140A-140B, 142, 152A-152B

English 2, 3, 10, 50A-50B, 52A-52B, 56A-56B, 60A-60B, 101A-101B, 110, 115, 117A-117B, 119A-119B, 126B, 129, 131, 132, 133, 134, 149, 152A-152B

Philosophy 1A-1B, 3A-3B, 101, 111A-111B, 129, 135, 136

*Fine Arts*

Aesthetics 2, 5, 50, 51, 52A-52B, 102, 138, 150

Art A, B, 6A, 6D, 8, 16A

Music 7A, 10A-10B, 70 through 88, 170 through 188

*Practical Arts*

Home Economics 3, 4A, 15

Industrial Arts 5, 6, 85

Library Science 10

(d) **Oral and Written Communication.** Two units must be completed in oral communication by passing Speech Arts 3 or equivalent. A speech test is given to all students who enroll in Speech Arts 3. Students failing this test are required to register concurrently in Speech Arts 2, Oral Communication Laboratory, for one unit of credit which may not be counted toward general education requirements.

A minimum of three units, with a maximum of six units, must be selected from courses in written communication. All students must complete three units in English 1 or equivalent. Students failing the English test are required to complete English A for three units as a prerequisite for other courses in English. English A may not be counted toward general education requirements.

Selection should be made from the following general education courses:

*Oral Communication*

Speech Arts 3, or two units of 1-X for foreign students

*Written Communication*

English 1, or 1-X for foreign students, 61, 62, 106

(e) **Psychology.** Three units must be completed in Psychology 1. An additional three units may be selected from other general education courses in psychology, including Psychology 11, 12, 106, 107, 145.

(f) **Physical Education and Health Education.** Two units must be completed in Health Education 21 and two units must be selected from general education courses in physical education, except that veterans of the United States armed forces who are granted military credit for basic training are not required to enroll for Health Education 21 or for courses in physical education.

The physical education requirement must be satisfied by completion of four semesters of activity courses for a minimum and maximum of two units. A physical education activity course taken in the summer session may be counted in lieu of a semester. Not more than one activity course within any one semester may be counted toward general education. An activity course may not be repeated for credit.

General education courses in physical education include all activity courses and Physical Education 122.

(g) **Mathematics.** From zero to six units may be selected from general education courses in mathematics. Students failing the Mathematics Test must complete Mathematics X. This course may not be counted toward the general education requirements. Selection should be made from the following general education courses: Mathematics A, B, C, D, G, 3A, 3B, 7A, 7B, 104.



(h) **Foreign Languages.** From zero to six units may be selected from general education courses in foreign languages. **Note:** Year-courses in foreign languages completed in high school may not be repeated in college for credit, except that the last year-course in any foreign language sequence completed in high school may be repeated in college for a maximum of three units of repeated work to be applied toward graduation.

Selection of general education courses in foreign language should be made from French, German, and Spanish courses numbered as follows: 1, 2, 3, 4, 15, 16, 115, 116.

(i) **Family Life Education.** From zero to six units may be selected from general education courses in family life education. Selection should be made from the following courses:

Business Administration 158

Health Education 90

Psychology 106

Home Economics 1, 3, 4A, 15,  
70, 135, 150

Sociology 35, 135

(j) **Air Science.** Two units will be granted for completion of Air Science 1A and two units for 1B. Two additional units will be granted for completion of Air Science 141A. These six units correspond to the parts of the AFROTC program which lie in the areas of social science, natural science, communication, and other areas of the general education pattern; however, these units will not be included within the unit minima or maxima specified in any such area.

# BACHELOR OF ARTS DEGREE IN ARTS AND SCIENCES

## MAJOR REQUIREMENTS

One major field is required for the A.B. degree in addition to 45 units in general education courses. At least 40 units of the 124 required for graduation must be in courses carrying upper division credit.

The major in arts and sciences consists of the total number of upper division units, including the specific courses prescribed in the major. Prerequisites and other related courses may be required in the lower division. Unless otherwise provided, these required lower division courses may not be included in general education. Some majors require a minor approved by the major department. For specific information on majors, refer to the section of the catalog on Announcement of Courses.

### MAJORS

Majors in arts and sciences are offered in the following fields:

Art	Journalism	Public Administration
Bacteriology	Language Arts	Public Personnel
Botany	Life Science	Management
Chemistry	Mathematics	Recreation
Economics	Music	Romance Languages
English	Personnel Management	Social Science
French	Philosophy	Social Service
Geography	Physical Education	(Presocial Work)
Geology	Physical Science	Sociology
History	Physics	Spanish
Home Economics	Political Science	Speech Arts
Industrial Arts	Psychology	Zoology

### THE GENERAL MAJOR

The general major offers an opportunity for students to obtain a general type of training leading to occupational objectives not otherwise provided in the regular curricular programs available in the college. Two of these general majors, home arts, and prelegal, are described elsewhere in the catalog. (Refer to the Index.) Students not electing one of these curricula who need this general type of training must follow the procedure outlined below.

In addition to the general education requirements, a student taking the general major must complete 36 upper division units chosen from three fields with not more than 15 units nor fewer than nine units from any one field. A minimum of a year course in each field must be completed in the lower division as foundation for upper division work in the general major. A minor is not required; however, four additional upper division elective units must be completed to meet the minimum requirement of 40 upper division units for graduation.

All students following the pattern for the general major must obtain forms from the Personnel Services Center after consultation with one of its counselors. The forms will then be submitted to the chairman, or his delegated representative, of each of the three departments comprising the general major by the student for approval, revision or rejection. After final approval by the Dean of Instruction has been obtained, the student must present two copies of his program to the Personnel Services Center in order to be officially enrolled in this program.

### MINOR REQUIREMENTS

A minor in arts and sciences may be required by the department offering the major. In departments not requiring a minor, the minor is optional with the student. A minor generally consists of a minimum of 15 units, or maximum of 22, six to nine units of which must be in courses carrying upper division credit as specified by the department. A few minors may exceed the 22 unit maximum. The minor may include courses which are also included in the general education requirements.



**MINORS**

Minors in arts and sciences are offered in the following fields:

Accounting	Education	Mathematics
Air Science	Engineering	Music
Anthropology	English	Philosophy
Art	French	Physical Education
Astronomy	Geography	Physical Science
Bacteriology	Geology	Physics
Botany	German	Political Science
Banking and Finance	Health Education	Psychology
Business Education	History	Public Administration
Business Management	Home Economics	Recreation
Chemistry	Industrial Arts	Secretarial Management
Comparative	Insurance	Sociology
Literature	Journalism	Spanish
Credit Management	Life Science	Speech Arts
Economics	Marketing	Zoology

# BACHELOR OF SCIENCE DEGREE IN ARTS AND SCIENCES

## REQUIREMENTS FOR THE MAJOR

One major field is required for the B.S. degree in addition to 45 units in general education courses. A minimum of 128 units is required for graduation. A minor field is not required.

The major consists of a minimum of 36 upper division units, including the specific courses prescribed in the major. Prerequisites and other related courses may be required in the lower division. Unless otherwise provided, these required lower division courses may not be included in general education.

### MAJORS

Majors in arts and sciences are offered in the following fields:

#### *Science*

Bacteriology  
Botany  
Chemistry  
Engineering  
Laboratory Technique  
Life Science  
Nursing  
Physics  
Zoology

#### *Occupational*

Health Education

#### *Business Administration*

Accounting  
Banking and Finance  
Business Education  
Business Management  
Credit Management  
Industrial Management  
Insurance  
Marketing  
Office Management  
Secretarial Management



## PREPROFESSIONAL CURRICULA

Preprofessional curricula, which usually require three or four years of collegiate work, are offered. Curricular outlines of preprofessional study, which are presented on the following pages, meet the typical requirements for admission to professional schools. Students expecting to complete their professional training at other institutions should modify the suggested outlines of study to meet the requirements of the professional schools of their choice. Curricular outlines are presented for pre-dental, prelegal, and premedical programs. Students planning to enter other professional fields, such as agriculture, forestry, optometry, pharmacy, veterinary science, may obtain assistance from faculty advisers in arranging appropriate preprofessional courses of study.

### PREDENTAL CURRICULUM

Candidates for a degree in dentistry should ascertain the entrance requirements of the dental college to which they expect to transfer and should make whatever changes in the following typical requirements that may seem desirable in satisfying the requirements of the specific dental college.

The curriculum for dental hygiene is essentially the same as for predentistry.

High school students planning to enter dentistry should include in the high school program the following subjects: Elementary algebra, plane geometry, intermediate algebra, chemistry, physics, mechanical drawing, and three units in one foreign language if required by the college to which a student expects to transfer.

*Course of Study for Predental Curriculum:* Freshman year, physical education activities, Health Education 21, Speech Arts 3, English 1, English 2 or other literature course, Mathematics C and D, Chemistry 1A-1B, Zoology 1 (32 units); sophomore year, physical education activities, Psychology 1, Chemistry 5A, Physics 2A-2B and 3A-3B, Botany 1, Biology 15, social science including courses in U. S. history, Constitution, and California government (30 units).

The following courses for a third year in preparation for dentistry are suggested for students who fail to receive acceptance from a dental college after completing the prescribed 60 units: Chemistry 101A-101B; Zoology 100 and 106; Art 119A, Psychology 11; additional courses in general education.

### PRELEGAL CURRICULUM

The following curriculum is designed to meet the requirements of standard American schools of law for a broad and liberal education, while at the same time providing desirable flexibility in the individual programs. There are two patterns of concentration which will usually be indicated for the prelegal student, either of which may be selected, in consultation with the adviser, to fit best the interests of the student. These are the major-minor pattern and the general major pattern. Subject to individual variation, the fields of economics, history, and political science should receive first consideration when choosing the pattern of concentration as being the most effective background for later professional study in law and for possible activities in the field of business.

#### RECOMMENDED COURSE OF STUDY FOR PRELEGAL CURRICULUM

*Lower division.* Business Administration 1A-1B, Economics 1A-1B, Political Science 1A-1B or 71A-71B, and a year course in history. Upper division: In the junior and senior years the student will plan his course with the counsel of his adviser in terms of the field of law in which he plans to work, but keeping in mind the entrance requirements and examinations for admission to schools of law. The recommended list below should receive prime consideration by all prelegal students in the selection of courses, though it is to be thought of as flexible in accordance with student needs.

*Recommended.* Business Administration 100; Economics 131, 133, 150, 170; History 151A-151B, 175A-175B; Political Science 111A-111B, 139A-139B.

Twelve units of lower division courses in social science may be counted toward the general education requirements in social science.

Beyond the courses taken in the fields of concentration, upper division electives in English, philosophy, psychology, sociology, and speech arts are recommended. A mastery of English expression is essential. The approval of the prelegal adviser is required for all master plans. If the general major pattern of concentration is chosen, a copy of the master plan is to be filed with the Evaluations Office.

### PREMEDICAL CURRICULUM

The entrance requirements of medical colleges ordinarily range from three to four years of premedical work. The lower division requirements of the liberal arts curricula include the general requirements of standard medical colleges and should therefore be met in full whether the curriculum extends over a period of three or of four years. All plans for premedical work should include an arrangement of courses to meet the requirements of the medical college which the student expects to enter.

Students ordinarily elect to concentrate in chemistry and zoology with a major in one and a minor in the other. Requirements for these majors and minors are described under these departments.

High school students planning to enter medicine should include in the high school program the following subjects: Elementary algebra, plane geometry, intermediate algebra, chemistry, physics, two or three years of French or German. Two years of Latin also recommended.

Course of study for premedical curriculum in addition to general education requirements:

Freshman year: Chemistry 1A-1B, Zoology 1 or Physics 2A-2B, 3A-3B.

Sophomore year: Chemistry 5A, Physics 2A-2B, 3A-3B or Zoology 1, and foreign language.

Junior year: Chemistry 101A-101B, foreign language to 12 units, Zoology 100 and 106.

Senior year: Completion of requirements for graduation with a major preferably in chemistry or zoology.

Students should consult with the adviser in the premedical curriculum for selection and arrangement of courses.



## PROFESSIONAL CURRICULA IN TEACHER EDUCATION

### ADMISSION TO TEACHER EDUCATION

Students who plan to earn credentials for teaching or other school service should apply for admission to teacher education during either the second semester of the freshman year or the first semester of the sophomore year. Students entering the college at the end of the sophomore year will apply at the beginning of the junior year. Application may be made at a special meeting held each semester. (For date and place of this meeting, refer to the calendar in this catalog.) No courses in education may be taken until admission is granted; any exception to this rule must have the approval of the appropriate admissions committee.

The standards for admission to teacher education are different from those for admission to the college; therefore, admission to the college does not guarantee that the student will be admitted to teacher education. The committees on admission to teacher education will base their decision upon the following factors:

1. A satisfactory score on the college aptitude test taken at the college.
2. Competence in the use of English and satisfactory ability in arithmetic, handwriting, reading and spelling as indicated by scores on fundamentals tests. (See college calendar for dates of these tests which should be taken in the second semester of the freshman year.)
3. Satisfactory scores on the general culture test in the case of candidates for junior high school, special secondary, or general secondary credentials. (See college calendar for dates of this test, which should be taken in the second semester of the sophomore year.)
4. Quality of speech habits and voice control as indicated by the satisfactory completion of a speech test given at the college or satisfactory completion of a course in corrective speech.
5. Results of the college health examination given for teaching credential candidates.
6. Interviews with representatives of the Admissions Committee and with a representative of the department in which the student is a major. The interviewing committee will base its evaluation upon the following factors established by the State Board of Education: intelligence, scholarship, professional aptitude, personality and character, speech and language usage, and many-sided interests.
7. Satisfactory grade point averages on the first two years or more of a given curriculum or its equivalent and on all subsequent work taken for the credential. Minimum grade point averages are indicated below:
  - a. Elementary, kindergarten-primary, special secondary credentials, 2.2.
  - b. General secondary credential: all subjects, 2.5, and major field, 2.75.
  - c. Junior high school credential, 2.5.
8. For administration, supervision, and general pupil personnel services credential candidates, a satisfactory grade point average (minimum 2.75) on all work applicable to that credential, exclusive of the work applied to the basic credential.
9. For general secondary credential candidates, an official evaluation and program approved by the authorized departmental representative in the student's major field and by a representative in secondary education.

### TRANSFER STUDENTS

Students who have completed two or more semesters of work in another college, upon transferring to San Diego State College, should make application for admission to teacher education as soon as they enroll in the college. Transfer students admitted to the college with either upper division or graduate standing must take the necessary tests for admission to teacher education given during the testing and advising program before the beginning of their first semester at the college. (See college calendar for dates.)

### TRANSFER STUDENTS WITH PROVISIONAL CREDENTIALS

Teachers with a provisional credential who are teaching and working concurrently toward a regular credential may have a program designed to fit their background. According to present law, teachers on provisional credentials are required to embark upon a program with an accredited institution leading to a degree and/or a credential before the provisional credential can be renewed. Before the renewal can be certified by San Diego State College, the student must be fully matriculated in the college and must complete admission to teacher education. (Refer to the requirements stated above for admission to teacher education.) Also, at the time of renewal, successful teaching experience must be verified. For an evaluation of college credit completed to date, make formal application at the Evaluations Office, Administration Building, San Diego State College. For additional details, see the coordinator of elementary education or the coordinator of secondary education.

### ADVANCED STANDING IN TEACHER EDUCATION

A student transferring into San Diego State College with advanced standing must complete a minimum of six units of professional education work in residence at San Diego State College before recommendation for a credential, regardless of extent of education work already completed elsewhere. Whenever a transfer student has had teaching experience, the college requires that a statement from the employer(s) be filed with the Evaluations Office.

### EVALUATION OF CREDITS

After an interval of five years, courses in education are re-evaluated and subject to reduction in credit, in light of such new requirements as may have been put into effect and changes in educational procedures. Students formerly in attendance will not be considered to be working in the curriculum until an evaluation and statement of credit has been secured from the Evaluations Office. All courses taken either at this college or elsewhere must be approved by an official adviser in order to be credited toward meeting credential requirements or pattern requirements for a degree.

### TEACHING CREDENTIALS

San Diego State College is authorized by the State of California to recommend students for the teaching credentials listed below. To be recommended, students must complete, or have completed, the bachelor's degree in one of the curricula offered for teachers.

<i>The credential</i>	<i>Subjects and grades for which it is valid</i>
General elementary .....	Kindergarten through grade 8.
Kindergarten-Primary .....	Kindergarten through third.
Junior High School. A special program is offered in combination with the General Elementary Credential .....	All subjects in grades 7, 8, and 9 in all elementary or secondary schools.
General Secondary .....	All subjects in the public schools in grades 7 through 14.
Special Secondary in Art .....	Art in all grades of the public schools.
Special Secondary in Business Education .....	Business education subjects in all grades of the public schools.
Special Secondary in Industrial Arts .....	Industrial Arts in all grades of the public schools.
Special Secondary in Music .....	Music in all grades of the public schools.
Special Secondary in Physical Education .....	Physical education in all grades of the public schools.
Special Secondary in Speech Arts .....	Speech in all grades of the public schools.



General Pupil Personnel Services (Approval pending).....	To serve in the areas of psychology, psychometry, counseling, or child welfare and attendance in all grades of the public schools.
Teaching Exceptional Children (Approval pending).....	To teach mentally retarded or speech and aurally handicapped children in all grades of the public schools.
Administration in Elementary Education .....	To serve as superintendent, deputy superintendent, assistant superintendent, principal, vice-principal, and supervisor of instruction in elementary schools.
Supervision in Elementary Education .....	To supervise instruction in elementary schools.
Administration in Secondary Education .....	To serve as superintendent, deputy superintendent, assistant superintendent, principal, vice-principal, and supervisor of instruction in secondary schools.
Supervision in Secondary Education .....	To supervise instruction in secondary schools.
Special Subject Supervision.....	Supervision in the special subject in all grades.

### COMBINATION OF CREDENTIALS

Students who seek more than one teaching credential must complete in full the curriculum for each, with only such exceptions as are indicated in the statement of requirements.

A combination of the elementary school credential and the junior high school credential may be secured by completing the requirements for the elementary school credential and the following additional requirements.

- (a) A junior high school teaching major plus a teaching minor to be approved by the Coordinator of Secondary Education.
- (b) Education 121 in the major field or equivalent elementary education course.
- (c) Three units of directed teaching, or equivalent, in a junior high school.
- (d) Education 100 or 102.

A combined program leading to the junior high school and general elementary credentials is available. Entering students interested in such a program should request an adviser for the junior high school credential.

A combination of the junior high school credential and a special secondary credential may be secured by completing the requirements for the special secondary credential and the following additional requirements:

- (a) A junior high school teaching minor approved by the Coordinator of Secondary Education.
- (b) Education 121 in the junior high school teaching minor.
- (c) Three units of student teaching in the junior high school teaching minor.

The general elementary credential and the credential for Teaching Exceptional Children in either area of specialization, Speech Correction and Lip Reading in the Remedial Classes, or Teaching of the Mentally Retarded, may be combined by careful scheduling of all requirements for both credentials. It will probably be necessary to attend one or more summer school sessions in order to complete the requirements for the combined credentials within a four-year period.

### GENERAL ELEMENTARY AND KINDERGARTEN-PRIMARY CREDENTIALS WITH THE BACHELOR OF ARTS DEGREE

The general elementary and kindergarten-primary credentials are granted with the A.B. degree in teacher education. All elementary education students must complete requirements for the general elementary credential. Those who wish to specialize further in kindergarten-primary education may elect courses leading to the additional credential.

Requirements for the general elementary and kindergarten-primary credentials overlap with the following exceptions: Kindergarten-primary practicum, piano, and directed teaching in the kindergarten. These courses may be taken as part of the 124 units required for a general elementary credential.

Curricular outlines for both credentials may be obtained from the Coordinator of Elementary Education.

Summary of unit requirements:

	<i>Units</i>
General education .....	45
Major in education .....	39-43
Additional units, including minor and pattern requirements for the credential .....	36-40
Total number of units required for graduation .....	124

#### MAJOR FOR THE GENERAL ELEMENTARY CREDENTIAL

The major consists of 39 upper division units to include the following courses: Education 112, 151 (6 units); Education 130 (13 units); Education 131 (7 units); Education 111 (2 units); Education 101 (2 units); Education 181 (7 units); and Health Education 151 (2 units).

Lower division background courses for the credential include the following courses (or equivalents): \*Geography 1, Physical Geography; \*Geography 2, Cultural Regions; \*Music 7A, Musicianship; Music 7B, Music Materials for the Elementary School; \*Art 6A, Design; Art 6B, Design; Art 61A, Crafts in the Elementary Schools; and Physical Education 53, Physical Education in the Elementary School. (Courses preceded by an asterisk (\*) may be counted in general education requirements.)

#### MAJOR FOR THE GENERAL ELEMENTARY AND THE KINDERGARTEN-PRIMARY CREDENTIAL

The major consists of those courses required for the general elementary credential with the addition of kindergarten-primary practicum, Education 132 (4 units).

Lower division background requirements are the same as for the general elementary credential with the addition of piano, Music 10A-10B, or equivalent.

#### MINOR

A teaching minor for the general elementary and kindergarten-primary credentials consists of a minimum of 15 units in one field, at least six units of which must be in courses carrying upper division credit. Minors are offered in the following fields:

English	Industrial Arts	Social Science
Foreign Languages	Mathematics	Speech Arts (creative
General Science	Physical Education	or speech correction)

The *minor in English* must include three units in American literature.

The *minor in foreign languages* may be in one or more of the foreign language fields.

The *minor in general science* shall consist of laboratory courses in Biology 3 and 4 or approved equivalents, and Physical Science 1 and 2 or equivalents, plus six upper division units chosen from Biology 160, Botany 119-S, Industrial Arts 185, 186, Physics 148, and Zoology 119-S and 165.

The *minor in industrial arts* consists of 20 units to include Industrial Arts 11, 21, and 122, and one lower division and one upper division course in *each of two* of the following areas: general woodworking, general metalworking, electricity-radio, transportation, and graphic arts. Electives should be chosen in consultation with the adviser in industrial arts.

The *minors in mathematics and physical education* are the same as the arts and sciences minors described under the respective departments. Students are advised to select courses in these minors in consultation with the departmental adviser.

The *minor in social science* must include upper division units in history and/or geography for a minimum of six units. Further work to complete the minor may be in either lower or upper division, selected from anthropology, economics, geography, history, political science or sociology.



The *minor in speech arts* (creative) is the same as the minor in arts and sciences described under the department. The minor in speech correction must be planned and approved by the education adviser for the credential for teaching exceptional children.

Students taking the general elementary in combination with a special secondary credential may use the special secondary major for the minor in the elementary field.

#### ACCELERATED CREDENTIAL PROGRAM FOR STUDENTS WITH FOUR-YEAR DEGREES

Students with A.B. or B.S. degrees are eligible for an accelerated program leading to a general elementary and/or kindergarten-primary credential. The normal three-semester sequence in professional education is condensed into two semesters. Requirements for admission to teacher education are the same as for undergraduates. For additional information see the Coordinator of Elementary Education.

#### JUNIOR HIGH SCHOOL CREDENTIAL WITH THE BACHELOR OF ARTS DEGREE

The junior high school credential is granted with the A.B. degree in teacher education. It is offered to students with minors in home economics or industrial arts and is recommended in combination with the general elementary or special secondary credential. Students wishing to secure the junior high school credential under conditions other than these should see the Coordinator of Secondary Education for approval of the program.

One teaching major, in addition to 45 units in general education courses, and one teaching minor are required of all students taking this credential. Students not taking this credential in combination with another credential are required to complete 24 units in professional education courses. Students taking this credential in combination with another credential should refer to the section of the catalog entitled: Combination of Credentials.

#### TEACHING MAJORS AND MINORS

Teaching majors and teaching minors are offered in the following fields:

##### *Teaching Majors*

English  
Foreign Languages  
General Science  
Mathematics  
Social Science

##### *Teaching Minors*

Home Economics  
Industrial Arts  
or  
The special secondary field major  
when the combination credentials  
are earned

##### Summary of unit requirements:

	<i>Units</i>
General education .....	45
Teaching major (minimum requirements) .....	24
Teaching minor .....	17-20
Professional courses in education .....	24
Electives .....	11-14

Total number of units required for graduation..... 124

#### TEACHING MAJOR

A *teaching major* consists of 24 to 33 units as specified below. Courses in the major are in addition to the 45 units required in general education courses, unless otherwise indicated.

A *teaching major in English* shall consist of six units in a lower division year-course, and 18 units in English courses carrying upper division credit, including three units in American literature and three units in Shakespeare. Recommended as part of the major: English 192.

A *teaching major in foreign languages* may include one or more of the foreign languages for a minimum of 24 units, 18 units of which must be in courses carrying upper division credit.

A *teaching major in general science* shall consist of a minimum of 33 units, at least 12 units of which must be in courses carrying upper division credit. Nine units may be applied toward general education requirements. The lower division courses must cover all of the following areas of science: astronomy, botany, chemistry,

geology, physics, and zoology. Lower division minimum requirements: Biology 3 and 4, and Physical Science 1 and 2, or equivalent courses. Upper division requirements: Botany 119-S or Zoology 119-S, and Physical Science 150 or Physics 148, plus at least one more course in each of life and physical sciences for a minimum of 12 upper division units. These elective courses, Industrial Arts 85, Zoology 8A and 8B, Biology 160, 161, Industrial Arts 185, Zoology 165, and alternate courses in upper division above are available to students who take only the minimum lower division courses. Electives may be used to complete the required minimum of 33 units. A student electing this major must have one year each of high school algebra and geometry, or equivalent.

A *teaching major in mathematics* shall consist of a minimum of 24 units, at least 18 units of which must be in courses carrying upper division credit.

A *teaching major in social science* shall consist of a minimum of 24 units, at least 18 units of which must be in courses carrying upper division credit. There shall be a concentration of 12 units, at least six units of which must be in courses carrying upper division credit, selected from one of the following fields: anthropology, economics, geography, history, political science, or sociology. A year-course in American history must be included in the lower or upper division.

#### TEACHING MINORS

The *teaching minor in home economics* consists of 17 units to include Home Economics 3, 15, and 70 in the lower division, and Home Economics 150 in the upper division with six additional upper division electives chosen with the approval of the departmental adviser.

The *teaching minor in industrial arts* consists of 20 units to include Industrial Arts 11, 21, and 122, and one lower division and one upper division course in *each of two* of the following areas: general woodworking, general metalworking, electricity-radio, transportation, and graphic arts. These courses should be chosen in consultation with the adviser in industrial arts.

#### PROFESSIONAL COURSES IN TEACHER EDUCATION

Professional courses in teacher education include 24 units in the following: Education 100, 110, 120, 121 (methods in the major and minor fields), 180, plus Health Education 151.

#### SPECIAL SECONDARY SCHOOL CREDENTIAL WITH THE BACHELOR OF ARTS DEGREE

The special secondary credential is granted with the A.B. degree in teacher education in the following fields: art, business education, industrial arts, music, physical education and speech arts. Majors in these fields are in addition to 45 units in general education courses. Professional courses in education are also required. For a statement of requirements in the major and in professional education, refer to the credentials below.

#### SPECIAL SECONDARY CREDENTIAL IN ART

Courses in the major are in addition to 45 units of general education courses.

The teaching major in art for the special secondary credential consists of 44-46 units to include the following courses: Lower division: in general education: Aesthetics 5 or 51 and 50 (4 units); in the major: Art A (or high school equivalent), Art B, 6A-6B, 14A, 61A-61B, and six to eight units of art electives (20-22 units). Upper division: Aesthetics 150, Art 106A, 112A, 115A, 116A, 119A, 194A, 195A, Speech Arts 140A, and three units of art electives (22 units).

Professional courses in teacher education consist of 24 upper division units to include the following courses: Education 100, 110, 120, 180, 130B, 121A, and Health Education 151.

A teaching minor is not required, but students planning to take a general secondary credential are advised to complete a teaching minor in one of the areas offered for the general secondary credential and the methods course (Ed. 121) in this teaching minor field.

#### SPECIAL SECONDARY CREDENTIAL IN BUSINESS EDUCATION

Courses in the major are in addition to 45 units of general education courses. The major in business education must include the following requirements: Lower division: Bus. Adm. 1A-1B, 30A-30B, 72 or equivalent, 73, 80. Economics 1A-1B

must be included in general education to meet prerequisite and credential requirements. Upper division: 24 upper division to include the following: Bus. Adm. 131 or Economics 135, Bus. Adm. 134, 150, 158, 175, 176, 178, 189, and Economics 140.

To complete the credential requirements in the teaching subfields, additional units are required in at least *two* of the following fields of concentration, one of which must be *accounting* or *secretarial*:

*Accounting*: Bus. Adm. 2 and six units from Bus. Adm. 100, 102, or 106.

*Secretarial*: Bus. Adm. 75B or equivalent, and Bus. Adm. 183A-183B.

*Business Management*: Bus. Adm. 2.

*Merchandising*: Bus. Adm. 50 and six units from Bus. Adm. 151, 152, 153, or 159.

Professional courses in teacher education consist of 24 upper division units to include the following courses: Education 100, 110, 120, 180, 121U, one of the following: Education 121Q, 121R, or 121S; and Health Education 151.

In addition to the requirements stated above, the student must present satisfactory evidence of one-half year, or 1,000 hours of approved experience in the field named in the credential.

A teaching minor is not required, but students planning to take a general secondary credential are advised to complete a teaching minor in one of the areas offered for the general secondary credential and the methods course (Ed. 121) in this teaching minor field.

#### **SPECIAL SECONDARY CREDENTIAL IN INDUSTRIAL ARTS**

Courses in the major are in addition to 45 units of general educational courses.

The major in industrial arts consists of 41 units to include the following: lower division: Industrial Arts 11, to be taken at the beginning of the major; five courses to be selected from Industrial Arts 21, 31, 51, 61, 71, and 81. (17 units total in lower division). Art 6A is a prerequisite for certain upper division courses (may be counted toward general education requirements in the area of literature, philosophy, and the arts). Upper division: a minimum of 24 upper division units to include nine units in *each of two* of the following areas: industrial drawing, general metalworking, general woodworking, electricity-radio, transportation, or graphic arts; and six units selected from the areas just mentioned, or from handicrafts courses, photography courses, or the general shop sequence.

Professional courses in teacher education consist of 22 upper division units to include the following courses: Education 100, 110, 120, 180, 121D, and Health Education 151.

A teaching minor is not required, but students planning to take a general secondary credential are advised to complete a teaching minor in one of the areas offered for the general secondary credential and the methods course (Ed. 121) in this teaching minor field.

#### **SPECIAL SECONDARY CREDENTIAL IN MUSIC**

General basic requirements for the credential are as follows:

1. Upon entering the department, each student is required to take an examination in piano for classification, and to commence work on no less than four consecutive semesters of class or private piano study for credit.
2. Upon entering the department, each student is required to declare his major instrument (voice, piano, clarinet, etc.), take an examination thereon for classification, and continue the development of his performance ability through class or individual study for credit after admission to the program.
3. Appearance in at least one student recital during each semester in residence, according to departmental recital requirements.
4. As laboratory experience, participation in two performing groups each semester, beginning with the first semester and continuing for seven (7) semesters, one of which must be a major group (chorus, choir, glee club, orchestra, or band) in which the major instrument or voice is regularly used.
5. Before recommendation for admission to directed teaching will be granted, credential candidates must have completed all lower division courses in beginning class study of orchestral instruments and voice, Music 146AB, and must have passed the Minimum State Credential Requirements in voice and piano, with or without credit, which are as follows:
  - (a) Piano: Ability (1) to play a Bach two-part invention; (2) to play an artistic accompaniment; (3) to play at sight four-part hymns.



(b) Voice: Ability (1) to sing at least one song representative of each of the following periods of vocal literature: classic, romantic, modern; (2) to sing at sight any part of a four-part hymn.

Students whose background in piano is inadequate for these requirements must register in their first semester for appropriate private or class instruction, with or without credit. Students with insufficient background in voice must register for voice instruction no later than the third semester.

### Major

Courses in the major are in addition to 45 units of general education courses, except that nine units of music organization courses may be counted in general education toward degree requirements in the area of literature, philosophy, and the arts.

*Lower Division Requirements:* Forty units to include the following: Music 10ABCD and 15AB (or equivalents), 9AB, 52AB, and 59AB; four units selected from Music 20AB, 25AB, 30AB, 35; eight units selected from music organization courses numbered 70-88; and four units in the major instrument.

*Upper Division Requirements:* Twenty-four upper division units to include the following: Music 109A, 146BC; three units selected from Music 120AB, 125AB, 130AB, 135; six units selected from music organization courses numbered 170-188; three units in the major instrument; and eight units of upper division music electives.

### Professional Courses in Teacher Education

Professional courses in teacher education consist of 26 upper division units to include the following courses: Education 100, 110, 120, 121G, 125, 130D, 180, and Health Education 151.

A teaching minor is not required, but students are urged to complete a minor and the methods course (Ed. 121) in an academic field selected from the teaching minors for the general secondary credential.

### Specific Course Requirements

<i>First year</i>	<i>Units</i>	<i>Second year</i>	<i>Units</i>
Music 9AB .....	6	Music 59AB .....	6
†Music 10AB (piano) .....	0-2	†Music 10CD (piano) .....	2
†Music 15AB .....	0-2	Music 52AB .....	6
Music organization (courses numbered 70-88) .....	4	Music organization (courses numbered 70-88) .....	4
Music courses selected from 20AB, 25AB, 30AB, 35 .....	2	Music courses selected from 20AB, 25AB, 30AB, 35 .....	2
Major instrument .....	2	Major instrument .....	2
*English 1 and Speech Arts 3 .....	5	*U. S. History, Constitution, California Government .....	6
*Health Education 21 .....	2	*Literature or philosophy .....	3
*Psychology 1 .....	3	*Physical Education .....	1
*Social Science .....	3		
*Physical Education .....	1	Total .....	32
Total .....	30		
<i>Third year</i>	<i>Units</i>	<i>Fourth year</i>	<i>Units</i>
Music 146BC .....	2	Upper division music electives .....	8
Music 109A .....	2	Music courses selected from 120AB, 125AB, 130AB, 135 .....	1
Music courses selected from 120AB, 125AB, 130AB, 135 .....	2	Music organization (courses numbered 170-188) .....	2
Music organization (courses numbered 170-188) .....	4	Major instrument .....	1
Major instrument .....	2	*Natural Science .....	3
*Natural Science .....	6	General education electives .....	3
Education 100, 110 .....	8	Education 120 .....	4
Education 130D .....	2	Health Education 151 .....	2
Education 121G .....	2	Education 180 .....	6
Education 125 .....	2	Total .....	30
Total .....	32		

\* General education courses. Nine units of music organization courses may be counted as general education in the area of literature, philosophy, and the arts.

† May be waived in part or in full by examination.

**SPECIAL SECONDARY CREDENTIAL IN PHYSICAL EDUCATION (MEN)**

Courses in the major are in addition to 45 units of general education courses.

The major in physical education consists of 42 units to include the following: Lower division: Physical Education 53, 63, 64, 72, Health Education 65 (11 units); and Zoology 8A-8B (6 units). Upper division: Physical Education 141, 142, 145, 146, 161, 167, 168, 169, 170A or 170B, 190, and two units of physical education electives (25 units).

Professional courses in teacher education consist of 22 upper division units to include the following courses: Education 100, 110, 120, 180, 121H, and Health Education 151.

A teaching minor is not required, but students planning to take a general secondary credential are advised to complete a teaching minor in one of the areas offered for the general secondary credential and the methods course (Education 121) in this teaching minor field.

**SPECIAL SECONDARY CREDENTIAL IN PHYSICAL EDUCATION (WOMEN)**

Courses in the major are in addition to 45 units of general education courses.

The major in physical education consists of 44 units, including general education courses in physical education. Lower division: Physical Education 1A, 2A, 2B, 3A, 5A, 5B, 6, 12A, 13A, 14A, 18A, 53, and 72; and Zoology 8A-8B (16 units). Upper division: Physical Education 142, 151, 154A-154B, 155, 156A-156B, 160, 161, 167, 168, 170B, 190. (28 units.)

Professional courses in teacher education consist of 22 upper division units to include the following courses: Education 100, 110, 120, 180, 121J, and Health Education 151.

A teaching minor is not required, but students planning to take a general secondary credential are advised to complete a teaching minor in one of the areas offered for the general secondary credential and the methods course (Education 121) in this teaching minor field.

**SPECIAL SECONDARY CREDENTIAL IN SPEECH ARTS**

Courses in the major are in addition to 45 units of general education courses.

The major in speech arts consists of 45 units to include the following: Lower division: Speech Arts 4, 11A, 55A or 55B, 56A, 60A, 81A or 81B and three units in speech electives (21 units). Upper division: Speech Arts 150, 159, 176 or 179A; three units selected from 162, 191, or 192A; nine units selected from 108, 118, 140, 154A, 154B, 155, 182A-182B, or 183A-183B; and three units selected from upper division courses in English literature.

Professional courses in teacher education consist of 22 upper division units to include the following courses: Education 100, 110, 120, 180, 121L, and Health Education 151.

A teaching minor is not required, but students planning to take a general secondary credential are advised to complete a teaching minor in one of the areas offered for the general secondary credential and the methods course (Ed. 121) in this teaching minor field.

**CREDENTIAL TO TEACH EXCEPTIONAL CHILDREN****A. Speech Correction and Lip Reading in Remedial Classes****B. Teaching of the Mentally Retarded**

This credential supercedes special secondary credentials in correction of speech defects and teaching the mentally retarded child. The requirements for the latter two credentials must be completed by September 15, 1957, in order to be valid.

**Credential Requirements**

In addition to the general requirements of the State of California for all credentials, the following are requirements for the credential to teach exceptional children:

- (1) Possession of a valid kindergarten-primary, general elementary, junior high school or general secondary credential.
- (2) Satisfactory completion of interviews for admission to the program for exceptional children.
- (3) Completion of the work for the general area and the area of specialization as indicated below.

**a. The general areas:**

	<i>Units</i>
Education 170, Exceptional Children .....	3
Education 115 or 230 or Psychology 152, Counseling and Guidance .....	3
Speech Arts 170, Speech Development .....	3
Education 182 or 316B, Directed Internship .....	4
<b>Total</b> .....	<b>13</b>

**b. Area of Specialization:****1. *Speech Correction and Lip Reading in Remedial Classes:***

Speech Arts 116, Field Work in Clinical Practices .....	4-6
Speech Arts 150, Phonetics .....	3
Speech Arts 174, Clinical Methods in Speech Correction .....	3
Speech Arts 176, or Education 176, Advanced Speech Correction .....	3
Speech Arts 177, or Education 177, The Teaching of Lip Reading .....	2
Speech Arts 178, or Education 178, Aural Rehabilitation .....	3
Speech Arts 179, or Education 179, Nervous Speech Disorders .....	3
<b>Total</b> .....	<b>21-23</b>
<b>Grand total</b> .....	<b>34-36</b>

It is strongly recommended that students in the area of speech and hearing therapy obtain as much background in psychology as possible. Suggested courses are:

- Psychology 131, Psychology of Personality (3)
- Psychology 150, Abnormal Psychology (3)
- Psychology 151, Introduction to Clinical Appraisal (3)

**2. *Teaching the mentally retarded:***

	<i>Units</i>
Education 171, Curriculum and Methods for Mentally Retarded Children .....	3
Art 61A or 161A, Crafts in the Elementary School .....	3
(Education 172, Workshop for Teaching the Mentally Re- tarded, meets the requirements for Education 171 and Art 61A or 161A when taken for 6 units)	
Psychology 109, Mental Deficiency .....	3
Electives (a minimum of 3 units from the following courses: .....	3
<b>Total</b> .....	<b>12</b>
Education 137, Reading Difficulties (3)	
Education 132, Education Practicum (Kindergarten-Primary) (4) (only for those teachers planning to teach the severely retarded).	
Education 232, Problems in Vocational Guidance (3)	
Education 233, or Psychology 233, Guidance Counseling Tech- niques (3)	
Music 10A-10B, Piano—Elementary Class Instruction (2) (only for those teachers planning to teach the severely mentally retarded)	
Psychology 204, Individual Psychological Testing (3)	
Psychology 150, Abnormal Psychology (3)	
Psychology 151, Introduction to Clinical Appraisal (3)	
Psychology 152, Introduction to Methods of Counseling (3)	
<b>Grand total</b> .....	<b>25</b>

It is strongly recommended that students in the area of teaching the mentally retarded should take more than the minimum requirements in electives. These electives in all cases should be selected only after consultation with the adviser for the credential.



By careful scheduling it is possible to earn this credential in either area of specialization concurrently with the basic credential. The student should plan carefully his schedule of studies with the education adviser for the credential if he wishes to finish the credential within the four-year undergraduate period. It may be necessary to attend summer school to achieve this.

#### **HEALTH AND DEVELOPMENT CREDENTIAL**

Requirements for the Health and Development credential have recently been revised. The new credential will become effective September 15, 1956. Application for the credential should be made directly to the Commission of Credentials, State Department of Education, Sacramento, California.

Students interested in preparing for this credential should consult with the chairman of the Department of Health Education, San Diego State College.

#### **GENERAL PUPIL PERSONNEL SERVICES CREDENTIAL**

This credential becomes effective on September 15, 1956, and supersedes the school psychometrist and school psychologist credentials.

In addition to the general requirements of the State of California for all credentials, the following are requirements for admission to the General Pupil Personnel Services Credential program:

1. Verification of a bachelor's degree granted by an institution accepted for credentialing purposes by the State Board of Education.
2. Verification of two years of successful teaching experience, or equivalent as stated in Title 5 of the California Administrative Code.
3. Satisfactory completion of at least two interviews with members of the Guidance Studies Committee of the Department of Education.
4. Presentation of a brief professional autobiography including a self-evaluation of potential as a pupil personnel worker.

The program of studies for the credential consists of a minimum of 30 semester hours of postgraduate work consisting of course work and field experiences in a general area and in at least one specialized area. It will be possible for students to obtain the credential at San Diego State College in one or more of the following areas of specialization:

1. Pupil counseling
2. Child welfare and attendance
3. School psychometry
4. School psychology

Students desiring to meet the requirements as a school psychologist will be required (1) to meet the requirements of the general pupil personnel services credential in school psychometry and (2) obtain an additional year of graduate work in school psychology.

Further details on this credential are available in the Secondary Education office of the college.

### **CURRICULA LEADING TO THE GENERAL SECONDARY SCHOOL CREDENTIAL**

#### **INFORMATION CONCERNING THE GENERAL SECONDARY SCHOOL CREDENTIAL**

A candidate for this credential must complete the requirements for the bachelor's degree from an accredited institution with a major and a minor commonly taught in the secondary schools of California. The credential requires at least 40 units of general education to include a minimum of six units in each of the following areas: (1) science and mathematics, (2) practical and fine arts, (3) social studies, (4) communicative arts. Admission to candidacy for this credential should be sought during the second semester of the sophomore year or immediately upon admission to San Diego State College with advanced or graduate status. For admission requirements, refer to the section entitled: Admission to Teacher Education.

Students desiring a major for which San Diego State College is authorized should complete a program leading to the A.B. or B.S. degree at the end of four years and the General Secondary Credential upon completion of the graduate year requirements outlined on the following pages.

Students desiring a major in art, business education, industrial arts, music, physical education or speech arts may complete the requirements for the special secondary credential simultaneously with the bachelor's degree; then continue with the graduate program. For further details regarding these majors, refer to these credentials.

Any person desiring the General Secondary Credential should consult with the Coordinator of Secondary Education during his first semester of attendance at San Diego State College.

#### RECOMMENDED PROGRAM FOR THE GENERAL SECONDARY SCHOOL CREDENTIAL

1. The following courses should be completed before receiving the bachelor's degree: Health Education 151 (may be taken any semester); Education 100 and 110 (should be taken consecutively). Those persons changing from another vocational objective to education during the senior year may take Education 100 and 110 concurrently by special permission of the Coordinator of Secondary Education, following admission to Teacher Education and a check of the student's qualifications.

	<i>Units</i>
Health Education 151, Health Education for Teachers .....	2
Education 100, The Secondary School .....	4
Education 110, Development and Learning .....	4

2. After completion of requirements in (1) above, the following courses may be taken either before or after receiving the bachelor's degree; however, they should be taken concurrently with the first directed teaching assignment unless the student has equivalent teaching experience.

	<i>Units</i>
Education 120, The Teaching Process .....	4
Education 180 or 316A, Directed Teaching-Secondary (or equivalent) .....	3
Education 121 (methods in field of student teaching assignment) .....	2-4

3. The graduate work must consist of San Diego State College's standard year of work, 24 to 30 semester units of upper division or graduate work, including the following specific requirements:

- (a) At least 12-15 semester units completed at San Diego State College.
- (b) At least six upper division or graduate semester units in subject fields commonly taught in junior and senior high schools. Graduate work in the major is recommended when this is a teaching subject area field.
- (c) Enough units to complete at least a 21 semester unit minor, with a minimum of six semester units of upper division credit in the minor subject area.

For a statement of requirements in the teaching major and minor fields, refer to these majors and minors below.

4. Professional Education during the graduate year: Completion of the courses listed in (1) and (2) above and the following:

	<i>Units</i>
Education 121 (in the field of the second directed teaching assignment) if not taken under (2) above .....	2
Education 230, Guidance Problems in Secondary Education .....	3
Education 250, Curricular Problems in Secondary Education .....	3
Education 316A, Directed Teaching, or equivalent teaching experience .....	3-6

#### MAJORS AND MINORS FOR THE GENERAL SECONDARY CREDENTIAL

The following pages outline tentative programs for the majors and minors for which San Diego State College is authorized to recommend for the General Secondary Credential. Every candidate for the general secondary credential must have a program approved in writing by the departmental representative in the major teaching field and in education as part of admission to the teacher education program.

Person with majors in broad fields (Language Arts, Life Science and General Science, Physical Science and General Science, Romance Languages, or Social Science) cannot take a minor within the area of their major.

**Teaching Majors**

Art  
 Business Education  
 English  
 French  
 Health Education  
 Industrial Arts  
 Language Arts  
 Life Science and General Science  
 Mathematics  
 Music  
 Physical Education (Men)  
 Physical Education (Women)  
 Physical Science and General Science  
 Psychology  
 Romance Languages  
 Social Science  
 Spanish  
 Speech Arts

**Teaching Minors**

Art  
 Business Education  
 Economics  
 English  
 French  
 Health Education  
 History  
 Home Economics  
 Industrial Arts  
 Life Science and General Science  
 Mathematics  
 Music  
 Physical Education (Men)  
 Physical Education (Women)  
 Physical Science and General Science  
 Social Science  
 Spanish  
 Speech Arts

**Outline of Requirements****Major in Art**

The requirements for the A.B. degree and the special secondary credential in art should be completed simultaneously. Refer to the special secondary credential in art. After the above requirements have been met, the candidate for the general secondary credential shall complete the graduate course in art listed below.

A student who does not complete the special secondary credential requirements and the A.B. degree simultaneously should consult the faculty adviser concerning credential requirements in the teaching major and minor fields and in professional education. For this student, the art major in arts and sciences should be completed for the A.B. degree and the remaining credential requirements in the postgraduate year, including the graduate course in art listed below.

**Graduate Year**

Art 200A-200B, Special Problems in Art .....	<i>Units</i> 4
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**Minor in Art**

A minimum of 21 semester units required for the teaching minor. Students wishing to use art as a minor for the bachelor's degree should refer to the arts and sciences minor in art.

**Lower Division**

Art A-B, Drawing and Composition .....	2-4
Art 6A-6B, Design .....	4
Art elective (Art 14A, Lettering, recommended) .....	3-5
Aesthetics 50, Appreciation and History of Art .....	2
Aesthetics 5, Art Orientation, or Art 51, Survey of Mexican Art .....	2

**Upper Division**

Aesthetics 150, Appreciation and History of Art .....	2
Art electives .....	4

**Major in Business Education**

The requirements for the A.B. degree and the special secondary credential in business education should be completed simultaneously. Refer to the special secondary credential in business education. After the above requirements have been met, the candidate for the general secondary credential shall complete a graduate year to include the graduate courses in the major listed below.

A student who does not complete the special secondary credential requirements and the A.B. degree simultaneously should consult the faculty adviser concerning credential requirements in the teaching major and minor fields and in professional education. For this student, the business education major in arts and sciences should be completed for the B.S. degree and the remaining credential requirements in the postgraduate year, including the graduate courses in the major listed below.



**Graduate Year**

Select four units from the following:	Units
Business Administration 270, Seminars in Business Administration (a), (b), (c), (d), and (e).....	2-2
Business Administration 271, Seminar in Office Management.....	2

**Minor in Business Education**

A minimum of 21 semester units required for the teaching minor. Students wishing to use business education as a minor for the bachelor's degree should refer to the arts and sciences minor in business education.

**Lower Division**

Business Administration 71 and 72, Typewriting.....	6
Business Administration 1A-1B, Accounting.....	6

**Upper Division**

Nine upper division units should be selected in consultation with adviser in business education.....	9
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**Minor in Economics (Not available to Social Science majors)**

A minimum of 21 semester units required for the teaching minor. Students wishing to use economics as a minor for the bachelor's degree should refer to the arts and sciences minor in economics.

**Lower Division**

Economics 1A-1B, Principles of Economics.....	6
A year course in another social science area.....	6

**Upper Division**

Economics 100A, Intermediate Economic Theory.....	3
Economics electives.....	6

**Major in English**

This major may be used for the A.B. degree.

**Lower Division**

One year-course from lower division English electives.....	6
Lower division English electives (in addition to English 1).....	6

**Upper Division**

Upper division English courses selected under the supervision of the departmental representative.....	24
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**Graduate Year**

English 200, Seminar.....	2
English 192, The English Language (if not taken as an undergraduate) or 191, 195, or an additional seminar.....	2-3

**Minor in English (Not available to Language Arts majors)**

A minimum of 21 semester units required for the teaching minor. Students wishing to use English as a minor for the bachelor's degree should refer to the arts and sciences minor in English.

**Lower Division**

English 1, Freshman Composition.....	3
A year course chosen from: English 50A-50B, 52A-52B, 56A-56B, or 60A-60B.....	6

**Upper Division**

Select one course from each of the following areas:	
Nineteenth Century English Literature: select from English 119A, 119B, 126A, 126B, or 143B.....	3
Shakespeare: select from English 117A or 117B.....	3
American Literature: select from English 131, 132, 133, or 134.....	3
Language: English 192.....	3

**Major in French**

This major may be used for the A.B. degree if the student also completes a minor in arts and sciences, to be selected with approval of the departmental representative in the major field.

In the lower division, course equivalents in the major may be used for the A.B. degree. For the teaching major, the student must have credit for a minimum of 36 units in French, including the graduate courses.

<i>Lower Division</i>	<i>Units</i>
French 1, 2, 3, 4, 5, 6, or equivalents.....	16
Spanish 1, 2, or German 1, 2, or Latin 1, 2, or their equivalents.....	6
History 4A-4B (recommended)	
Six units from courses 1, 2, 3, 4 in Spanish, German, or Latin may be applied toward general education requirements.	

<i>Upper Division</i>	
French 101A-101B, Conversation and Composition.....	6
French 198, Comprehensive Reading and Survey.....	3
Upper division courses in French with a maximum of three units which may be selected from related fields with the approval of the departmental representative .....	15

<i>Graduate Year</i>	
French 214, Contemporary French Literature.....	2
French 220, Explication de Textes.....	2

### **Minor in French**

A minimum of 21 semester units required for the teaching minor, exclusive of course equivalents. Students wishing to use French as a minor for the bachelor's degree should refer to the arts and sciences minor in French.

<i>Lower Division</i>	
French 1, 2, 3, 4, 5, 6, or equivalents.....	16
History 4A-4B (recommended)	

<i>Upper Division</i>	
French 101A-101B, Conversation and Composition.....	6

### **Major in Health Education**

This major may be used for the B.S. degree.

<i>Lower Division</i>	<i>Units</i>
Health Education 65, Community Health.....	3
Health Education 90, Physiology of Reproduction.....	1
Zoology 8A, Human Anatomy.....	3
Zoology 8B, Human Physiology.....	3
Chemistry 2A-2B, Fundamentals.....	6
Home Economics 4A, General Nutrition.....	2
(Nine units in natural science may be counted as general education)	

<i>Upper Division</i>	
36 upper division units to include the following:	
Health Education 145, Safety Education and Accident Prevention.....	3
Health Education 151, Health Education for Teachers.....	2
Health Education 152, Health Education Programs.....	3
Health Education 153, Administration of the School Health Program.....	3
Health Education 190, Introduction to Public Health.....	3
Health Education 191, Supervised Field Experience.....	1-3
Bacteriology 101, General.....	4
Physical Education 161, Instructor's Course in First Aid.....	2
Sociology 135, Marriage and the Family.....	3
Education 112, Child Growth and Development.....	3
Upper division electives in related fields selected with approval of the departmental adviser in the major field .....	7-9

### **Graduate Year**

Four units selected from the following:

Health Education 200, Evaluation Procedures in Physical Education, Health Education, and Recreation.....	2
Health Education 202, Problems in Health Education.....	2
Health Education 205, Curriculum in Physical Education and Health Education .....	2

**Minor in Health Education**

A minimum of 21 semester units required for the teaching minor. Students wishing to use health education as a minor for the bachelor's degree should refer to the arts and sciences minor in health education.

Students contemplating advanced degree work should plan to complete an academic minor as well as the minor in health education.

<i>Lower Division</i>	<i>Units</i>
Health Education 21, Principles of Healthful Living.....	2
Health Education 65, Community Health.....	3
Health Education 90, Physiology of Reproduction.....	1

*Upper Division*

15 units to be selected with approval of the departmental representative from the following courses:

Health Education 145, Safety Education and Accident Prevention.....	3
Health Education 151, Health Education for Teachers.....	2
Health Education 152, Health Education Programs.....	3
Health Education 153, Administration of the School Health Program.....	3
Health Education 190, Introduction to Public Health.....	3
Health Education 191, Supervised Field Experience.....	1-3
Physical Education 161, Instructor's Course in First Aid.....	2

**Minor in History (Not available to Social Science majors)**

A minimum of 21 semester units required for the teaching minor. A year course in United States History must be included. Students wishing to use history as a minor for the bachelor's degree should refer to the arts and sciences minor in history.

*Lower Division*

History 4A-4B, Modern Europe, or 8A-8B, The Americas, or 17A-17B, American Civilization.....	6
Electives chosen from anthropology, economics, geography (except Geography 1 or 3), political science, sociology.....	6
Additional social science electives.....	0-3

*Upper Division*

History electives.....	6-9
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**Minor in Home Economics**

A minimum of 21 semester units required for the teaching minor. Students wishing to use home economics as a minor for the bachelor's degree should refer to the arts and sciences minor in home economics.

*Lower Division*

Home Economics 3, Food and Nutrition.....	3
Home Economics 15, Clothing and Textiles.....	3
Home Economics 70, Children in the Home.....	2
Electives in Home Economics.....	1-4

*Upper Division*

Home Economics 150, Home Management.....	3
Home Economics 170, Child Development Laboratory.....	2
Electives in Home Economics.....	7-9
Electives for enrichment—see department chairman.	

**Major in Industrial Arts**

The requirements for the A.B. degree and the special secondary credential in industrial arts should be completed simultaneously. Refer to the special secondary credential in industrial arts. After the above requirements have been met, the candidate for the general secondary credential shall complete a graduate year including the courses in the major listed below.

A student who does not complete the special secondary credential requirements and the A.B. degree simultaneously should consult the faculty adviser concerning credential requirements in the teaching major and minor fields and in professional education. For this student, the industrial arts major in arts and sciences should be completed for the A.B. degree and the remaining credential requirements in the postgraduate year, including the courses in the major listed below.



<i>Graduate Year</i>	<i>Units</i>
Industrial Arts 200, Seminar.....	3
Additional postgraduate industrial arts work selected with approval of the department chairman .....	1-3

**Minor in Industrial Arts**

A minimum of 21 semester units required for the teaching minor. Students wishing to use industrial arts as a minor for the bachelor's degree should refer to the arts and sciences minor in industrial arts.

*Lower Division*

Industrial Arts 11, Orientation .....	2
Industrial Arts 21, Industrial Drawing .....	3
Select at least three courses from the following: .....	9
Industrial Arts 31, General Metalworking .....	3
Industrial Arts 51, General Woodworking .....	3
Industrial Arts 61, Electricity-Radio .....	3
Industrial Arts 71, Transportation .....	3
Industrial Arts 81, Graphic Arts .....	3

*Upper Division*

Industrial Arts 122, Industrial Drawing for Teachers .....	3
Select appropriate upper division electives .....	4-6

**Major in Language Arts**

This major requires 46 units to be taken in the fields of composition, dramatics, journalism, language, literature, radio or motion pictures, and speech arts. Education courses to be taken with this major include the standard program for all general secondary credentials plus Education 122, Reading in Secondary Education, and Education 121 in both English and speech arts. A methods course in a teaching minor is also required for the credential.

This major may be used for the A.B. degree if the student has been admitted to teacher education and has completed a minimum of eight units in professional education courses by date of degree candidacy. A minor selected from an appropriate teaching minor for the general secondary credential is required of students taking this major. A minimum of 15 units in this minor, six units of which must be in upper division courses, must be completed for the A.B. degree. The additional units required for the credential may be completed either in undergraduate or postgraduate work.

*Lower Division*

English 50A-50B, or 52A-52B, or 60A-60B .....	6
(or two upper division courses may be substituted, selection to be made from English 116A-116B, or 118A-118B, or 119A-119B, or 120A-120B, or 126A-126B, or 143A-143B)	
Journalism 51A .....	3
Speech Arts 60A, or 60B, or 55A, or 55B .....	3
Speech Arts 81A, or 81B .....	3

*Upper Division*

English 192 .....	3
English 106 or 191 .....	3
English 131, or 132, or 133, or 134 .....	3
English 117A, or 117B, or 152A, or 152B .....	3
Journalism 152 .....	3
Speech Arts 108A or 108B, 159, and 170 .....	9
Speech Arts 191, or 192A, or 192B .....	3

If lower division English sequence is taken in American Literature, the upper division course work in literature should be taken in other areas.

*Graduate Year*

One 200 numbered course in speech arts .....	2
One 200 numbered course in English .....	2

**Major in Life Science and General Science****Units**

This major may be used for the A.B. degree in life science.

**Lower Division**

Zoology 1, General .....	5
Botany 1, General .....	5
Zoology 8A-8B, Human Anatomy and Physiology .....	6
Biology 15, Quantitative Biology .....	3
Chemistry 2A-2B, Fundamentals .....	6
Physics 2A-2B, General (or, with the approval of the departmental adviser, high school physics and Geology 2 and Physical Science 1) .....	6
12 units in natural science courses may be applied toward general education requirements.	

**Upper Division**

Bacteriology 101, General .....	4
Biology 110, Ecology .....	4
Biology 155, Genetics .....	3
Biology 161, History of Biology .....	3
12 units chosen from the following:	
Zoology 112, 114, 115, 117, 121, Botany 114, Zoology 101 or Botany 107 .....	12

**Graduate Year**

Four units of course work at the graduate level are required. This requirement may be met by two semesters of Biology 200 or by one semester of Biology 200 and 2 units of Zoology 298 or Botany 298..... 4

**Minor in Life Science and General Science**

A minimum of 21 semester units required for the teaching minor. Students wishing to use life science as a minor for the bachelor's degree should refer to the arts and sciences minor in life science.

**Lower Division**

Biology 3, Principles and Biology 4, Natural History .....	6
Physical Science 1 and 2, Introduction .....	6

**Upper Division**

Biology 160, Evolution .....	2
Biology 161, History of Biology .....	3
Zoology 119S or Botany 119S, Field .....	4

**Major in Mathematics**

This major may be used for the A.B. degree if the student includes in the 24 upper division units of the major the courses listed below and Mathematics 105 or 106 or 107, and Mathematics 111. (Mathematics 119 and 121 are recommended, but not required of students who have been admitted to teacher education.)

**Lower Division**

Mathematics 3A, Analytic Geometry .....	3
Mathematics 3B, First Course in Calculus .....	3
Mathematics 4A, Second Course in Calculus .....	3
Additional mathematics or work in related areas .....	3

*Suggested courses in related areas:* Astronomy 1, Descriptive Astronomy; Business Administration 2, Mathematics of Finance; Engineering 2, Surveying I; Engineering 21, Descriptive Geometry; Physics 4A, Mechanics of Solids and Fluids; Physics 2A, General.

**Upper Division**

At least one course in Algebra .....	3
At least one course in Geometry .....	3
Mathematics 140A, Mathematical Statistics .....	3
Mathematics 117, Intermediate Calculus (unless 4B, Third Course in Calculus taken in lower division) .....	3
Mathematics 104, History of Mathematics .....	3
Additional upper division units in mathematics or related areas for a total of 24 upper division units .....	9

**Graduate Year**

Mathematics 200, Seminar .....	4
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**Minor in Mathematics**

A minimum of 21 semester units required for the teaching minor, exclusive of course equivalents. Students wishing to use mathematics as a minor for the bachelor's degree should refer to the arts and sciences minor in mathematics.

**Lower Division**

Mathematics D, Trigonometry (or high school equivalent for which pattern credit may be allowed)	3
Mathematics 3A, Analytic Geometry	3
Mathematics 3B, First Course in Calculus	3
One course selected from courses in related areas	3
(See above under teaching major in mathematics)	

**Upper Division**

Mathematics 104, History of Mathematics	3
Mathematics electives	6

**Major in Music**

The requirements for the A.B. degree and the special secondary credential in music should be completed simultaneously. Refer to the special secondary credential in music. After the above requirements have been met, the candidate for the general secondary credential shall complete the graduate requirements listed below.

A student who does not complete the special secondary credential requirements and the A.B. degree simultaneously should consult the faculty adviser concerning credential requirements in the teaching major and minor fields and in professional education. For this student, the music major in arts and sciences should be completed for the A.B. degree and the remaining credential requirements in the post-graduate year, including the graduate requirements listed below.

**Graduate Year**

Four units selected from the following:	<b>Units</b>
Music 200A-200B, Special Problems in Music	2-2
Music 203A-203B, Musicology	2-2
Music 206A-206B, Composition	2-2

**Minor in Music**

A minimum of 21 semester units required for the teaching minor. The student is required to demonstrate vocal or instrumental proficiency before admission to the minor program may be granted. As laboratory experience, the student with music as a minor is required to participate in one music activity each semester for seven semesters. (In special cases this requirement may be waived by the chairman of the Music Department.) Students wishing to use music as a minor for the bachelor's degree should refer to the arts and sciences minor in music.

**Lower Division**

Music 9A, Elementary Harmony	3
Music 52A, History of Music	3
Music 10A-10B, Piano (may be omitted in part or in full upon demonstration of proficiency)	2
Music activities chosen from courses numbered 70 to 88	4
Selected from the following: Music 15A, 20A, 25A, 30A	3-5

**Upper Division**

Music 146A, Fundamentals of Conducting	1
Music 146B, Instrumental Conducting, or 146C, Choral Conducting	1
Music activities chosen from courses numbered 170 to 188	3
Selected from the following: Music 111, 112, 116, 117, 121, 122, 126, 127, 131, 132, or 150	1

**Major in Physical Education for Men**

The requirements for the A.B. degree and the special secondary credential in physical education should be completed simultaneously. Refer to the special secondary credential in physical education for men. After the above requirements have been met, the candidate for the general secondary credential shall complete a graduate year, including the graduate courses in the major listed below.



A student who does not complete the special secondary credential requirements and the A.B. degree simultaneously should consult the faculty adviser concerning credential requirements in the teaching major and minor fields and in professional education. For this student, the physical education major in arts and sciences should be completed for the A.B. degree and the remaining credential requirements in the postgraduate year, including the graduate courses in the major listed below.

#### *Graduate Year*

Four units selected with approval of the adviser from the graduate courses in physical education..... 4

#### **Minor in Physical Education for Men**

A minimum of 21 semester units required for the teaching minor. Students wishing to use physical education as a minor for the bachelor's degree should refer to the arts and sciences minor in physical education.

Students contemplating advanced degree work should plan to complete an academic minor as well as the physical education minor.

<i>Lower Division</i>	<i>Units</i>
Physical Education 53, Physical Education in the Elementary Schools.....	2
Physical Education 72, Introduction.....	2
Electives .....	2-4

#### *Upper Division*

Professional activity courses (should be selected in consultation with departmental representative) .....	4
Physical Education 161, Instructor's Course in First Aid.....	2
Physical Education 190, Administration of Physical Education in Secondary Schools .....	3
Physical Education 170A or 170B, Recreational Leadership.....	2
Electives .....	2-4

#### **Major in Physical Education for Women**

The requirements for the A.B. degree and the special secondary credential in physical education should be completed simultaneously. Refer to the special secondary credential in physical education for women. After the above requirements have been met, the candidate for the general secondary credential shall complete a graduate year, including the graduate courses in the major listed below.

A student who does not complete the special secondary credential requirements and the A.B. degree simultaneously should consult the faculty adviser concerning credential requirements in the teaching major and minor fields and in professional education. For this student, the physical education major in arts and sciences should be completed for the A.B. degree and the remaining credential requirements in the postgraduate year, including the graduate courses in the major listed below.

#### *Graduate Year*

Four units selected from the graduate courses in physical education..... 4

#### **Minor in Physical Education for Women**

A minimum of 21 semester units required for the teaching minor. Students wishing to use physical education as a minor for the bachelor's degree should refer to the arts and sciences minor in physical education.

Students contemplating advanced degree work should plan to complete an academic minor as well as the physical education minor.

<i>Lower Division</i>	
Physical Education 1A, Fundamental Skills.....	½
Physical Education 2A-2B, Folk Dancing.....	1
Physical Education 3A, Modern Dance.....	½
Physical Education 5A-5B, 6, Team Sports.....	1½
Physical Education 53, Physical Education in the Elementary School.....	2-2½
Physical Education electives.....	3-4

#### *Upper Division*

Physical Education 156A-156B, Sports Methods.....	4
Physical Education 151, Folk Dancing Materials and Advanced Techniques.....	2
Electives selected from Physical Education 190, 170B, 154A-154B.....	5-6

**Major in Physical Science and General Science**

To obtain a teaching major in physical science and general science for the general secondary credential a student obtaining the A.B. or B.S. degree in chemistry or physics, or the A.B. degree in physical science, must include in his program the lower division courses listed below, which will also satisfy the natural science requirements for general education. The student taking a major in physical science for the A.B. degree must also complete a minimum of eight units in professional education courses in the undergraduate program.

<i>Lower Division</i>	<i>Units</i>
Astronomy 1, Descriptive.....	3
Biology 3 and 4, General, and Natural History of Plants and Animals.....	6
Geology 2 or 1A, General or Physical.....	3-4
Recommended electives: Astronomy 9, Geography 3, Geology 3; general education courses in literature, philosophy, and the arts: Industrial Arts 5, 6, or 85.	

**Upper Division**

Same as for the A.B. or B.S. major in chemistry, physics, or physical science.

Recommended electives, if not included as part of the major: Botany 119, Chemistry 101A, Physics 101, 107, Zoology 119, and Geography 153 (a general education course in social science).

**Graduate Year**

Select four units from the following:

Chemistry 200, Seminar.....	2-4
Physics 200, Seminar.....	2-4

**Minor in Physical Science and General Science**

This minor may be used for the A.B. degree only if the student has been admitted to the teacher education program and has completed eight units in professional education courses by the date of degree candidacy.

This minor consists of 26 units in courses specified below.		<i>Units</i>
Astronomy 1, Descriptive Astronomy.....		3
Biology 3 and 4, General, and Natural History of Plants and Animals.....		6
Chemistry 2A-2B, or 1A-1B, Fundamentals, or General.....		6-10
Geology 2 or 1A, General, or Physical.....		3-4
Physics 2A-2B and 3A-3B, or 4A-4B-4C, General, or Principles.....		8-12

The following courses are recommended as electives: Astronomy 9, Geology 3, Chemistry 101A, Geography 3, Geography 153, Physical Science 130, 150, Physics 101, Botany 119S or Zoology 119S, Industrial Arts 5, 6, and 85.

**Major in Psychology**

Psychology may be used as a major for the A.B. degree. Students expecting to use psychology as a major for the general secondary credential must include the courses listed below and complete in addition *two* teaching minors.

<i>Lower Division</i>	
Psychology 5 and 6, Principles.....	6

**Upper Division**

Psychology 104A, Statistical Methods	3
Psychology 105, Psychological Testing	3
Psychology 131, Psychology of Personality	3
Psychology 151, Introduction to Clinical Appraisal	3
Psychology 160A, Experimental Psychology	3
Electives to be selected with approval of the departmental representative	9

**Graduate Year**

Psychology 201, Seminar in Psychology.....	3
Upper division or graduate units in subject fields commonly taught in junior and senior high schools.....	6

**Major in Romance Languages** (an area major in French and Spanish)

This area major in romance languages may be used for the A.B. degree if completed with a minor in arts and sciences in a field other than in French or Spanish, the minor to be selected with approval of the departmental representative of the major field.

A student planning to take the general secondary credential who completes this major for the A.B. degree, plus the requirements in the graduate year, will meet the credential requirements for a teaching major and a teaching minor in French and Spanish (or Spanish and French), provided that the student have credit for a minimum of 36 units in the teaching major and 20 units in the teaching minor, exclusive of course equivalents.

*Lower Division*

Spanish 1, 2, 3, 4, 5, 6, or the equivalents.....	16
French 1, 2, 3, 4, 5, 6, or the equivalents.....	16

(Equivalents are acceptable in the lower division courses for the A.B. degree. Students with lower division equivalents who take the general secondary credential must complete additional units in upper division or graduate courses in French or Spanish to meet the minimum credential requirements in the teaching major and minor fields.)

History 4A-4B or 8A-8B (recommended).

Six units from courses 1, 2, 3, 4 in French and/or Spanish may be applied toward general education requirements.

*Upper Division*

Spanish 101A-101B, Conversation and Composition.....	6
French 101A-101B, Conversation and Composition.....	6
Courses in French literature (selected with approval of the departmental representative).....	9
Courses in Spanish literature or Spanish-American literature (selected with approval of the departmental representative).....	9
French 198 or Spanish 198 (in the teaching major field), Comprehensive Reading and Survey Course.....	3

*Graduate Year*

Two courses in the teaching major field.....	4
Select from:	
French 214, Contemporary French Literature (2)	
French 220, Explication de Textes (2)	
Spanish 201, Old Spanish (2)	
Spanish 204, Seminar in Spanish-American Literature (2)	

**Major in Social Science**

This major may be used for the A.B. degree. The major must include six units in United States history and work from at least four of the social science fields listed below. Twelve units of social science courses in the lower division may be applied toward general education requirements in social science.

*Lower Division*

A student must complete a minimum of six units in each of at least three fields he may select from the departments named below.....	18
Economics	
Geography	
History	
Political Science	
Sociology and/or Anthropology	

*Upper Division*

A student must complete a minimum of 30 units with the approval of the departmental representative as follows:



	<i>Units</i>
1. A minimum of 12 units from any field named above.....	12
2. A minimum of six units from each of two fields named above, excluding the field selected for the major upper division concentra- tion .....	12
3. Electives from social science fields.....	6

**Graduate Year**

Post-bachelor work selected with approval of the departmental representa- tive .....	4-6
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**Minor in Social Science**

(Not available to a student with a major in any of the social science fields.)

This minor may be used for the A.B. degree only if the student has been admitted to the teacher education program and has completed eight units in professional education courses by the date of degree candidacy.

This minor consists of 27 units in courses specified below.

**Lower Division**

A student must complete a six-unit sequence from each of three of the following fields .....	18
Anthropology 1A-1B	
Economics 1A-1B	
Geography 1 and 2 or 12A-12B	
History 4A-4B or 8A-8B	
Political Science 1A-1B or 71A-71B	
Sociology 50 and 51	

**Upper Division**

One upper division sequence in United States history.....	6
Elective from social science fields named above.....	3

**Major in Spanish**

This major may be used for the A.B. degree if the student also completes a minor in arts and sciences, to be selected with approval of the departmental representative of the major field.

In the lower division, course equivalents in the major may be used for the A.B. degree. For the teaching major, the student must have credit for a minimum of 36 units in Spanish, including the graduate courses.

**Lower Division**

Spanish 1, 2, 3, 4, 5, 6, or the equivalents.....	16
French 1, 2, or German 1, 2, or Latin 1, 2, or their equivalents.....	6
History 4A-4B, or 8A-8B (recommended)	
Six units from courses 1, 2, 3, 4 in French, German, or Latin may be applied toward general education requirements.	

**Upper Division**

Spanish 101A-101B, Conversation and Composition.....	6
Spanish 198, Comprehensive Reading and Survey.....	3
Upper division courses in Spanish with a maximum of three units which may be selected from related fields with the approval of the depart- mental representative .....	15

**Graduate Year**

Spanish 201, Old Spanish .....	2
Spanish 204, Seminar in Spanish-American Literature.....	2

**Minor in Spanish**

A minimum of 21 semester units required for the teaching minor, exclusive of course equivalents. Students wishing to use Spanish as a minor for the bachelor's degree should refer to the arts and sciences minor in Spanish.

**Lower Division**

Spanish 1, 2, 3, 4, 5, 6, or equivalents.....	<i>Units</i> 16
History 4A-4B, or 8A-8B (recommended)	

**Upper Division**

Spanish 101A-101B, Conversation and Composition.....	6
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**Major in Speech Arts**

The requirements for the A.B. degree and the special secondary credential in speech arts should be completed simultaneously. Refer to the special secondary credential in speech arts. After the above requirements have been met, the candidate for the general secondary credential shall complete a graduate year including the graduate course in speech arts listed below.

A student who does not complete the special secondary credential requirements and the A.B. degree simultaneously should consult the faculty adviser concerning credential requirements in the teaching major and minor fields and in professional education. For this student, the speech arts major in arts and sciences should be completed for the A.B. degree and the remaining credential requirements in the postgraduate year, including the graduate course in speech arts listed below.

**Graduate Year**

Speech Arts 200 or 298 ..... 4

**Minor in Speech Arts**

A minimum of 21 semester units required for the teaching minor. Students wishing to use speech arts as a minor for the bachelor's degree should refer to the arts and sciences minor in speech arts.

**Lower Division**

Speech Arts 3, Speech for Communication ..... 2  
 Speech Arts 4, Extemporaneous Speaking ..... 3  
 Speech Arts 11A, Interpretation ..... 3  
 Speech Arts 55A or 55B, Acting ..... 3  
 Speech Arts 81A or 81B, Survey of Radio and Television Techniques ..... 3  
 Electives in speech from 61 to 63 ..... 0-1

**Upper Division**

Speech electives (should be selected in consultation with departmental representative) ..... 6-7

## CURRICULA LEADING TO CREDENTIALS IN ADMINISTRATION AND SUPERVISION

Courses and field experience are available which lead to credentials in Elementary and Secondary Administration, Elementary and Secondary Supervision and Special Subject Supervision. A selection and admission program is employed to select candidates for these credentials who have the promising background experiences and competencies necessary to enable them to serve in positions of supervision and administration.

### GENERAL REQUIREMENTS FOR ADMINISTRATION AND SUPERVISION CREDENTIALS

In addition to the general requirements of the State of California for all credentials the following requirements are common for admission to and completion of all supervision and administration credentials:

1. Maintain a grade point average of 2.75 on all work applied toward the credential, exclusive of courses required for the basic credential.
2. Admission to the program of Administrative Studies, which includes:
  - a. Completion of information on a personal data sheet and the filing of official transcripts of all college work. (Forms and information available in Division of Education Offices.)
  - b. Completion of two counseling interviews with resident staff members teaching courses on the level, elementary or secondary, at which the candidate is working. The sequence of courses for the credential will be planned with the candidate at this time.
4. Admission to the program should be completed at any time previous to enrolling in Education 262, 263, 264, or 265.
5. Candidate should not enroll for more than three semester units of 200 numbered courses applied toward the credential during any single semester when he has a full-time teaching position.
6. Candidate must have completed a minimum of one full year of successful teaching experience before he may be admitted to courses in the core subjects, Education 262, 263, 264, or 265.

7. Candidate must have completed a minimum of two full years of successful teaching experience before he may be admitted to Education 266 or 267 (Field Experience) or to Education 316B (Internship in School Administration or Supervision).

#### **CURRICULA LEADING TO CREDENTIALS IN ELEMENTARY SCHOOL ADMINISTRATION AND SUPERVISION**

In addition to the requirements listed above, the candidate shall:

1. Possess a valid General Elementary Credential.
2. Present written evidence of two years of successful teaching experience on the elementary level.
3. Complete 30 semester units for the Administration Credential (24 units for the Supervision Credential) of upper division or graduate work in addition to the holding of the General Elementary Credential. These units shall include specific courses designated by the California State Department of Education and San Diego State College.
4. Complete a minimum of 15 units of post-graduate work in residence at San Diego State College.
5. Make formal application for an evaluation for the credential at San Diego State College and at the completion of all requirements, make application for the credential.

#### **Course Requirements for the Elementary Administration and Elementary Supervision Credentials as Designated by the State Board of Education**

- A. Courses in undergraduate or graduate training (letters and numbers correspond with State Department Bulletin Credential Regulations):

- \*1. The scope, functions, and place of the system of public education of elementary and secondary schools; rural and urban schools; vocational education; education for adults; special school programs; auxiliary agencies:  
Education 101 ..... 2 units
2. Principals and practices of curriculum construction and evaluation:  
Education 240 or 245 ..... 3 units
3. Measurement and appraisal of educational achievements and aptitudes:  
Education 151 ..... 3 units
4. Pupil personnel, counseling and guidance, including techniques and practices of child study and parent education:  
Education 115 or 230 ..... 3 units

- B. Concurrently with or subsequently to teaching experience, graduate or undergraduate training shall include work in the following subject groups, including directed field work of such a nature as to give the applicant first-hand knowledge of problems and issues as they exist in the public schools:

- \*1. Federal, state, county and city school organization, administration, and supervision:  
Education 260 ..... 3 units
- \*2. School finance, business administration, and law:  
Education 270 ..... 3 units
3. The organization and administration of elementary schools:  
Education 262 ..... 3 units
4. Elementary school supervision:  
Education 264 ..... 3 units
5. Field work or internship in school administration or supervision:  
Education 266 or 316B ..... 3-6 units

- C. Elective courses in general or professional education to complete 30 units (24 for supervision) *after receiving the General Elementary Credential or the A.B. degree.*

\* Courses not required for the Supervision Credential.



### CURRICULA LEADING TO CREDENTIALS IN SECONDARY SCHOOL ADMINISTRATION AND SUPERVISION

In addition to the common requirements listed above, the candidate shall:

1. Possess a valid General Secondary Credential.
2. Present written evidence of two years of successful teaching experience on the secondary level.
3. Complete 18 semester units for the Administration Credential (15 units for the Supervision Credential) of upper division or graduate work in addition to requirements for the General Secondary Credential. These units shall include specific courses designated by the California State Board of Education and San Diego State College.
4. Complete a minimum of 12 units of postgraduate work in residence at San Diego State College.
5. Make formal application for an evaluation for the credential at San Diego State College and at the completion of all requirements make application for the credential.

#### Course Requirements for the Secondary Administration and Secondary Supervision Credentials as Designated by the State Board of Education

- A. Courses in undergraduate or graduate training (letters and numbers correspond with State Department Bulletin Credential Regulations):
- \*1. The scope, functions, and place in the system of public education of elementary and secondary schools; vocational education; education for adults; special school programs; auxiliary agencies:  
Education 100, or 101 and 102 \_\_\_\_\_ 4-5 units
  - 2. Principles and practices of curriculum construction and evaluation:  
Education 250 \_\_\_\_\_ 3 units
  - 3. Measurement and appraisal of educational achievement and aptitudes:  
Education 120 or 152 \_\_\_\_\_ 2-4 units
  - 4. Pupil personnel, counseling and guidance, including techniques and practices of child study and parent education:  
Education 230 \_\_\_\_\_ 3 units
- B. Concurrently with or subsequently to teaching experience, graduate or undergraduate training shall include work in the following subject groups, including directed field work of such a nature as to give the applicant first-hand knowledge of problems and issues as they exist in the public schools:
- \*1. Federal, state, county and city school organization, administration, and supervision:  
Education 260 \_\_\_\_\_ 3 units
  - \*2. Finance, law, business administration:  
Education 270 \_\_\_\_\_ 3 units
  - 3. The organization and administration of secondary schools:  
Education 263 \_\_\_\_\_ 3 units
  - 4. Supervision of instruction and curriculum in the secondary schools:  
Education 265 \_\_\_\_\_ 3 units
  - 5. Directed field work or internship in administration or supervision:  
Education 267 or 316B \_\_\_\_\_ 3-6 units
- C. Elective courses in general or professional education to complete 18 units (15 for supervision) *after receiving the General Secondary Credential.*

#### SPECIAL SUBJECT SUPERVISION CREDENTIAL

This credential is available for persons who wish to supervise in a special subject area. Those desiring this credential should see the Chairman of the Division of Education.

\* Courses not required for the Secondary Supervision Credential.

## BACHELOR OF EDUCATION DEGREE AND THE GENERAL ELEMENTARY CREDENTIAL

Provisions for the granting of the bachelor of education degree are made in the California Administrative Code, Title 5, Article 7, Section 921. Requirements for this degree are summarized as follows:

**Purpose of the Degree.** The purpose of this degree is to increase the professional competence of the individual as an elementary teacher in the California public schools. Through the curriculum provided, the applicant is guided into those learning experiences which best meet his cultural and professional needs on the basis of his previous preparation and of the services he is to render.

**Eligibility for Candidacy.** To be eligible to enter the program for this degree at San Diego State College the applicant must obtain full admission to the college, be admitted to the teacher education program of the college, must have completed a minimum of 60 semester units of standard college work acceptable toward the degree, and must hold a California Provisional Kindergarten-Primary or Provisional General Elementary Credential.

**Requirements for the Degree.** The candidate must complete a four-year college course of 124 semester units as defined by the college, must meet the grade requirements established by the college for a bachelor's degree and credential, and must include in his program the following requirements:

- (1) General Education ..... 45 units  
 Courses in General Education must be distributed as follows:
  - (a) Social Sciences ..... 9  
 Shall include required instruction in U. S. History, Constitution, and California State and Local Government, and courses selected from the fields of anthropology, economics, geography, history, political science, sociology, and similar fields. Courses must be selected from two or more of these fields.
  - (b) Natural Sciences ..... 9  
 Shall include the fields of astronomy, botany, chemistry, geology, physics, physiology, zoology, and similar fields. At least one course must be selected from a physical science and one from a life science.
  - (c) Literature, Philosophy or the Arts ..... 6  
 Courses in fine and practical arts shall not exceed 3 of these 6 units.
  - (d) Health and Physical Education ..... 2
  - (e) Oral and Written Expression ..... 3
  - (f) Psychology ..... 2
  - (g) Additional units in General Education ..... 14  
 May be selected in whole or in part from the foregoing six general areas or may include courses in family life education or mathematics or not more than 6 units in foreign language. At least one course in General Education must include instruction in fire prevention.
- (2) Teaching background, minimum ..... 15 units  
 In addition to the 45 semester units required in General Education, the teaching background in subject fields shall be selected according to the needs of the applicant, as prescribed by the teacher education department, with not less than 2 semester units in each of at least 4 of the following fields:
  - (a) Art. Includes subject matter, laboratory or activity in the graphic or industrial arts.

- (b) English and Speech. Includes oral and written expression, American or world literature, children's literature, dramatics, or use of books and libraries.
  - (c) Physical Education, Health, and Hygiene. Includes personal hygiene, first aid, health education, games, rhythms, or physical activities.
  - (d) Mathematics.
  - (e) Music.
  - (f) Social Science, including geography.
  - (g) Natural Science.
- (3) Major ..... 24 units  
 Shall include courses from each of the following areas:
- (a) General elementary school methods or methods of teaching basic elementary school subjects.
  - (b) Principles of elementary education or elementary school curriculum.
  - (c) Child psychology or child growth and development.
  - (d) Other appropriate professional courses in education including instruction in the use and educational value of audio and visual aids.
- (4) Credit for Teaching Experience ..... 8 units  
 A maximum of 8 semester units may be allowed for directed teaching and/or teaching experience on the elementary school level. Credit for teaching experience may be allowed at the rate of 4 units for one year of verified successful teaching experience.
- (5) Additional units required ..... 32 units  
 Courses to complete the 124 units required for the degree shall be selected from those offerings of the college that best serve the cultural and professional needs of the candidate.
- Total ..... 124 units

**Credits Based on Examination.** A maximum of 30 units may be secured by examination in subjects included in the fields of study mentioned above. Students requesting credit by examination must comply with the provisions of the college established for this purpose. Refer to the section of this catalog on Credit by Examination.

**Residence Requirements.** A minimum of 24 semester units shall be earned in course work at San Diego State College (exclusive of credit by examination). Twelve of the 24 units must be in residence courses and must be secured after the candidate has earned at least 90 semester units.



## BACHELOR OF VOCATIONAL EDUCATION DEGREE

The purpose of this degree is to promote the professional advancement of the vocational teachers of the State. Eligible candidates for this degree shall be limited to those vocational teachers who meet the requirement established in the Education Code of the State of California and who are recommended by the Board of Examiners for Vocational Teachers.

The educational program for each applicant shall be determined by the College in terms of the needs of the individual applicant and the standards of the institution.

Each applicant for the degree shall have completed, with a grade point average of 2.0 (grade of C) or better, a course of 124 semester units, including the credits recommended by the Board of Examiners, and shall have met the general education requirements prescribed for the bachelor of arts or bachelor of science degree.

The credits recommended by the Board of Examiners for Vocational Teachers for the applicant's occupational, managerial and supervisory experience shall be applied toward a major in vocational arts. The vocational teacher training completed by the applicant may be used toward a minor in education or toward electives if some other minor is used.

The candidate for this degree must complete a minimum of 24 semester units in residence in this college, at least 12 units of which must be completed among the last 20 semester units counted toward the degree. Credit in summer sessions may be counted on a unit for unit basis toward this requirement.

The candidate must also meet all institutional requirements prescribed for candidates for other bachelor degrees, including requirements in American history, institutions, and ideals, U. S. Constitution, and California state and local government.

# ANNOUNCEMENT OF COURSES

## COURSE NUMBERS

Courses numbered from 1 to 99 are lower division (freshman or sophomore) courses; those numbered 100 to 199 are upper division (junior or senior) courses; those numbered 200 to 299 are graduate courses (see section on Admission and Registration for information concerning eligibility to enroll in these courses); those numbered 300 to 399 are professional education courses to be taken at the graduate level.

## CREDIT FOR UPPER DIVISION AND GRADUATE COURSES

A student with lower division standing is not eligible to take upper division courses, with the following exceptions: A student in the last semester of his sophomore year who is approaching upper division standing and is carrying sufficient lower division units to complete the required minimum of 60 units may carry upper division units for the remainder of his study load. A student with sophomore standing may carry upper division courses for upper division credit provided that he has the written approval of the chairman of the department and the Dean of Instruction. This written approval must be filed in the Office of the Registrar on the form "Adjustment of Academic Record." Blank forms may be obtained by the student at the Evaluations Office.

Graduate credit for courses numbered 200 to 299 is limited to students with graduate status. (See Admission to Graduate Study in section on Admission and Registration.)

## GENERAL EDUCATION COURSES

Course numbers preceded by an asterisk (\*) are general education courses which may be applied toward the 45 unit requirement in general education, unless specifically required as part of the major. Refer to the section of the catalog entitled: General Requirements for the Bachelor of Arts and Bachelor of Science Degrees.

## UNITS

Figures in parentheses indicate the unit value of the course.

One "unit" represents 50 minutes of recitation or lecture, together with the required preparation, or three hours laboratory work each week for a semester of 18 weeks.

## SEMESTER IN WHICH COURSES ARE OFFERED

Roman numeral I indicates course is offered in Fall semester. Roman numeral II indicates course is offered in Spring semester.

Following the course title are designations of credit and the semester in which course is offered. Examples:

(3) I ..... Three units. Offered first semester

(3) I, II ..... Three units. Offered first semester and second semester

(3-3) Year, I

Three units each semester. Year sequence beginning in the first semester

(3-3) Year, I, II

Three units each semester. Year sequence beginning either semester

Although the college fully expects to carry out the arrangements planned in the list of courses, it reserves the right to make changes. Classes in which the enrollment does not come up to the minimum number set by the State Department of Education may not be offered or may be postponed.

## PREREQUISITES

Prerequisites for courses are stated. A student should not enroll in a course for which he is not eligible.

Admission to all graduate courses requires graduate status and permission of the instructor.

## AESTHETICS

## IN THE DIVISION OF FINE ARTS

Major or minor work is not offered in aesthetics; however, certain courses in this field are required as part of the majors in art and in music. For specific information, refer to these departments.

## Lower Division Courses

**\*2. Introduction to Music (3) I**

Practical approach to hearing music with understanding and pleasure, through study of representative compositions of various styles and performance media, great musicians and their art. Music correlated with other arts through lectures, recordings, concerts. Closed to music majors or minors. A general education course in literature, philosophy, and the arts.

**\*5. Art Orientation (2) II**

An illustrated lecture course dealing with aesthetic meaning and its relation to the structure of art products. Designed to increase both understanding and appreciation of the visual world in general and of the fine arts in particular. A general education course in literature, philosophy, and the arts.

**\*50. Appreciation and History of Art (2) I**

A survey of art development in painting, sculpture, architecture, and handicrafts from the dawn of art to the Renaissance. Illustrated. A general education course in literature, philosophy, and the arts.

**\*51. Survey of Mexican Art (2) I**

A study of Mexican and Middle American Art from earliest time to present. A general education course in literature, philosophy, and the arts.

**\*52A-52B. Survey of Oriental Art (3-3) Year, I**

A study of the art of the great cultures of the Orient. (52A is a prerequisite for 52B.) A general education course in literature, philosophy, and the arts.

## Upper Division Courses

**\*102. Great Music (3) II**

Instrumental and vocal music in the larger forms studied through directed listening. Artistic trends and their effect upon music composition and performance. No prerequisite, but completion of Aesthetics 2 recommended. Not open for credit to music majors. A general education course in literature, philosophy, and the arts.

**\*138. Introduction to Aesthetic Appreciation (1) I (Same course as Comparative Literature 138)**

Major forms of expression and aesthetic experience in art, music and literature, presented by an interdepartmental staff through lectures, demonstrations, and panel discussions. Not open to students with credit for Comparative Literature 138. A general education course in literature, philosophy, and the arts.

**\*150. Appreciation and History of Art (2) II**

The period from the Renaissance through the modern school treated in the same manner as in Aesthetics 50. A general education course in literature, philosophy, and the arts.

**160. Techniques and Procedures of the Art Museum Worker (3) I**

Designed to acquaint the student with the nature and function of the art museum in the community and to give him experience in the methods by which it serves the public. Prerequisite: Aesthetics 5 or 50 and 150.



## AIR SCIENCE

## IN THE DIVISION OF AIR SCIENCE

**Air Force Reserve Officers' Training Corps**

The Department and Division of Air Science at San Diego State College offers the curriculum prescribed by the Air Force Reserve Officers' Training Corps. This curriculum consists of a four-year course, including a two-year basic course and a two-year advanced course.

The objectives of the Air Force ROTC program are the development of qualities of leadership and character essential to civil and military responsibility and the training of officer reserve personnel. Completion of the four-year course and a bachelor's degree may lead to a commission in the Air Force Reserve. Students who have demonstrated outstanding qualities of scholarship and leadership may receive special consideration for regular commissions in the Air Force.

Flight training is not offered as part of this program; however, Air Force ROTC graduates have a high priority for such training and, if accepted, serve as reserve officers on active duty during the training period.

**Eligibility:** A regularly enrolled male student is eligible for admission to the basic course if he is a citizen of the United States, not less than 14 years of age and has not reached his 23d birthday, and is physically qualified for military training. For admission to the advanced course, the student must not have reached his 25th birthday and must have completed the basic course or its equivalent. Students must register for the AFROTC as first semester freshmen to qualify for the full program. Entrance into the advanced course is contingent upon successful completion of the basic course or its equivalent. Federal law prohibits doubling up of any phase of the basic course (four separate semesters are required). If the ROTC was available to the freshman, he cannot get consideration for starting in the program at a later date in his college career. Outstanding transfer students who were enrolled at schools where ROTC was not offered may be allowed to compress the course into three academic years. At the discretion of the Professor of Air Science, up to two years of pattern credit in the basic course may be allowed for prior active service in the armed forces, provided the serviceman has taken, in phase, that portion of the basic course available to him. Normally, a student entering the advanced course must have two years of college work remaining. The applicant must pass required screening tests and be selected by the Professor of Air Science and the President of the College.

Attendance at one summer camp is required of each student to qualify for the commission. The summer camp is four weeks in length and is held at an active Air Force base. The student receives \$78 per month during this training period. Uniforms, equipment, subsistence, and transportation are furnished by the Air Force.

Students in the basic and advanced courses are furnished uniforms, equipment, and textbooks for air science. Students in the advanced course are given an allowance of approximately \$27 per month. Upon acceptance of this allowance, the student executes a written agreement with the United States Government and with the President of the College to complete the advanced course, completion of such course becoming a prerequisite to graduation.

**Basic and Advanced Courses**

The basic course requires two hours of classroom instruction and one hour of drill per week each semester. The advanced course requires four hours of classroom instruction and one hour of drill per week each semester. In addition, each student in the advanced course must attend one summer camp of four weeks. The basic course is primarily an education for citizenship in the air age. The advanced course prepares the student to assume the duties and responsibilities of junior officers in the U. S. Air Force. Students enrolled in the AFROTC program pursue their regular courses of study in fields of their choice. Major work is not offered in air science, but a minor is offered. Upon approval, air science may be used as part of the pattern for a general major.

**Minor**

A *minor in arts and sciences* is offered in *air science*. The minor consists of 15 to 20 units in air science and tactics, seven units of which must be in courses carrying upper division credit.

**Lower Division Courses****\*1A-1B. First Year Basic Air Science (2-2) Year, I**

Two hours of classroom instruction and one hour of drill per week. Introduction to the AFROTC program; moral and statutory obligations for military service; introduction to aviation; fundamentals of global geography; international tensions and security organizations; instruments of national military security; drill in basic military training.

**21A-21B. Second Year Basic Air Science (2-2) Year, I**

Two hours of classroom instruction and one hour of drill per week. A course that develops the purpose, processes, and primary elements of aerial warfare; the mission of the Air Force and the media for its accomplishment; career guidance; drill in cadet noncommissioned officer training.

**Upper Division Courses****131A-131B. First Year Advanced (3-3) Year, I**

Four hours of classroom instruction and one hour of drill per week. A course that introduces command and staff concepts in the Air Force; basic problem solving techniques, fundamental communication processes, and principles of learning and teaching; military courts and boards; elements of applied Air Science; the Air Force base; leadership laboratory.

**133X. First Year Advanced (3) Summer Camp**

A six-week camp required of all advanced students; normally completed between junior and senior year. Credit granted through the Extension Division on basis of individual student application with approval of the Professor of Air Science and Tactics.

**141A. Second Year Advanced (3) I**

Critique of summer camp and introduction to fourth year Air Science; leadership seminar; career guidance for USAF officers; military aviation and the evolution of warfare; leadership training laboratory. (Two units of general education credit will be allowed).

**141B. Second Year Advanced (3) II**

Military aspects of world political geography; briefing for commissioned service; leadership training laboratory. (Not open to students with credit for Geography 150).

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**ANTHROPOLOGY****IN THE DIVISION OF SOCIAL SCIENCES**

Major work is not offered in anthropology; however, courses in anthropology may be included as part of a general major or social science major. Students wishing to use anthropology as a field of concentration in the *general major* should include the following courses in the lower division: Anthropology 1A-1B, 2 or 3; Geography 1, 2 or Geology 1A-1B; Sociology 50, 51; recommended: Spanish, German, or French. The following supplementary fields of study are recommended in the upper division with a view to later specialization in anthropological work: For *archaeology*: art, geography, geology; for *physical anthropology*: psychology, statistics, and zoology; for *museum work*: art, education, and psychology. For further information on the *general major*, refer to the section on the Bachelor of Arts Degree.

Courses in anthropology may be used as part of the *social science major* for the general junior high school credential or the general secondary credential. For specific information, refer to the outlines of the requirements for these credentials.

**Minor**

A *minor in arts and sciences* is offered in anthropology. The minor consists of 15 to 22 units in anthropology, nine units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in anthropology for the general secondary credential; however, anthropology may be used as a part of the *social science minor* for the general secondary, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the requirements for the teaching minor for these credentials.

#### Lower Division Courses

##### \*1A-1B. General Anthropology (3-3) I

Origin and antiquity of man. Theories of human descent. Classification of races. Origin and early development of civilization. A general education course in social science.

##### 2. Physical Anthropology (3) I

An introduction to the studies of primatology and anthropometry. The comparative anatomy of the monkeys and great apes, the emergence of the anthropoids, the reconstruction of early man from fossil evidence. The landmarks, measures and indices used in the metrical study of the living human body and skeletal material. Sexual differences and growth changes in the skull and skeleton. Medico-legal applications.

##### 3. Survey of Archaeology (3) II

A review of the history of modern archeology and a discussion of its methods. The development of archaeological techniques in reconstructing the ancient cultures of the Mediterranean world. The problems of present day archaeology in the Near East, the Orient and the Americas. The principles and basic techniques used in the excavation of sites and the reporting of findings.

##### \*54. Social Anthropology (3) II

An anthropological study of social institutions in primitive and civilized societies. The evolution of family organization, religion, property right, and government traced in elementary and advanced civilization. A general education course in social science.

#### Upper Division Courses

##### 151A. The North American Indian (3) I

Pre-Columbian cultures of the North American Indian. The origin and migration of New World peoples. Industries, arts, crafts, social organization, religion and other phases of American Indian civilization.

##### 151B. Indian Civilization of Middle America (3) II

The development of civilization in Pre-Columbian Mexico and Central America: Aztec, Mayan, and related cultures.

##### \*152. World Ethnography (3) I (Not offered 1956-57)

The cultural patterns of representative aboriginal peoples. Industries, arts, social organization and supernaturalism considered with a view to environmental adjustment, historical development and functional interrelation. Ethnological theories reviewed and applied in interpreting illustrative aboriginal societies. A general education course in social science.

##### 153. Primitive Religion (3) II (Not offered 1956-57)

Beliefs and ritual of primitive man. Magic and religion. Forms of animism and polytheism. Primitive mentality and the supernatural.

##### 161. The California Indian (3)

A survey of native California Indian culture with stress on the Indian groups of Southern California. The industries, arts, social organization, folklore and religion will be considered as revealed through the study of living peoples and archaeological evidences.

##### \*165. Ethnology and Race Psychology (3) I (Not offered 1956-57)

The biological basis of race, somatic and serologic typology, racial mentality, tests and their ethnopsychological significance, abnormality in ethnic groups. Race and culture; ethnic aspects of demography. A general education course in social science.



**172. Indian Cultures of the Southwest (3)**

Indian cultures of the past and present in the Southwestern states. Arts, crafts, architecture and religion as revealed through archaeology and ethnology.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**ART****IN THE DIVISION OF FINE ARTS****Major**

A *major in arts and sciences* is offered in *art* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Every student who plans to major in art, whether in arts and sciences or in the teacher education program, must complete the following basic courses: Required in the major: Art A (or high school equivalent), Art B, 6A-6B, and 14A. Required in general education: Aesthetics 5 or 51 and 50.

In arts and sciences the student majoring in art may choose either a group of courses in which the crafts are emphasized or a group of courses in which the graphic arts are emphasized. One of the following plans should be selected:

*Emphasis on crafts:* The student should add to the list of basic courses required of all art majors the following courses in the major: lower division: Art 6D, 7, 61B and two units of art electives; upper division: Aesthetics 150, Art 106A or B or C, 106D, 111A, 117A-117B, 119A-119B, and eight units of art electives. This program leads in the direction of industrial design, interior design, cabinet making, sculpture, weaving, textile design, ceramics, etc.

*Emphasis on graphic arts:* The student should add to the list of basic courses required of all art majors the following courses in the major: lower division: Art 15A, 16A, and four units of art electives; upper division: Aesthetics 150, Art 106A or 106B, 112A-112B, 115A-115B, 116A-116B, 117A, and six units of art electives. This program leads in the direction of illustration, portraiture, landscape painting, mural design, poster design, production illustration, advertising design, fashion design, etc.

Art majors are not required to complete a minor.

A *teaching major in art* is offered for the general secondary and special secondary credentials. For statement of requirements, refer to these credentials.

**Minor**

A *minor in arts and sciences* is offered in *art*. The minor consists of 15 to 22 units in art, six units of which must be in courses carrying upper division credit.

A *teaching minor* is offered in *art* for the general secondary credential. Art may be offered only as a second minor for the general elementary and kindergarten-primary credential. For statement of requirements, refer to these credentials.

**The Master's Degree**

The master of arts degree for teaching service is offered with a major in art. See section of this catalog entitled "The Master's Degree."

**Art Appreciation, History and Orientation**

For courses in appreciation, history of art, and art orientation, see aesthetics. Many students, regardless of the field in which they may be majoring, recognize the need for an intelligent approach to the subject of art and art appreciation. However, due to the erroneous popular feeling that art is a subject requiring "talent," these students may refrain from enrolling in art courses. For students who desire a better understanding of art, but who do not hope to acquire any of the art skills, the following courses are recommended.

	<i>Units</i>
Aesthetics 5, Art Orientation .....	2
Aesthetics 50, History and Appreciation of Art .....	2
Aesthetics 51, Survey of Mexican Art .....	2
Aesthetics 52A-52B, Survey of Oriental Art .....	6
Art 8, Costume and Home-furnishing .....	2

Other courses which require certain skills but which are not beyond the ability of the average college student are:

Art 61B, Crafts	2
Art 6A, Design	2
Art A, Drawing and Composition	2
Art 94, Costume design	2

#### Lower Division Courses

##### \*A. Drawing and Composition (2) I, II

Problems involving perspective to develop ability to draw still life, furniture, exteriors, interiors, and the like. (High school equivalent may excuse the student from this course.) A general education course in literature, philosophy, and the arts.

##### \*B. Drawing and Composition (2) I, II

Drawing of mechanical and natural forms by the use of line and value. Emphasis on proportion and structure. Some quick sketching, gesture and contour drawing. A general education course in literature, philosophy, and the arts. Prerequisite: Art A.

##### \*6A. Design (2) I, II

Fundamentals of design and composition and theory of color. Basic course used as a prerequisite for all advanced work. A general education course in literature, philosophy, and the arts.

##### 6B. Design (2) I, II

Original work in creative design and representation with special stress on modern tendencies. Prerequisite: Art 6A.

##### \*6D. Furniture Design (2) I, II

Study of the principles of design through the making of furniture. A general education course in literature, philosophy, and the arts. Prerequisite: Art 6A.

##### 7. Line, Color and Display (2) I, II

The principles of line, color and arrangement applied to store and window display. Study and observation of windows, color and materials used in display. Building models and practical problems in arranging colors, textures, and forms in windows to fit different kinds of merchandise. (Students who may later wish to apply for upper division credit for this course as applied to a major will be required to do additional work.) This course is not open to students with credit for Bus. Adm. 159 or Art 107.

##### \*8. Costume and House Furnishings (2) I, II

An appreciative study of modern architecture and modern house furnishings, with emphasis on the spirit of gracious living and an appreciative study of the modern dress with emphasis on suitability to the figure, the personality and the occasion. A general education course in literature, philosophy, and the arts.

##### 14A. Lettering (2) I

Fundamental art principles applied to lettering. Practice for quick, accurate lettering; original problems using letters as design. Prerequisite: Art 6A.

##### 14B. Posters and Commercial Art (2) II

The application of lettering to posters, newspaper and magazine advertising, and other forms of commercial art. The study of composition combined with lettering and special study of modern tendencies in publicity. Prerequisites: Art 6A, 14A.

##### 15A-15B. Life Drawing (2-2) Year, I, II

Drawing from the nude model. Prerequisite: Art A-B.

##### \*16A. Painting (2) I, II

Composition of still life in color. Prerequisites: Art A and B, or permission of instructor. A general education course in literature, philosophy, and the arts.

**16B. Painting (2) I, II**

Landscape and more advanced composition in color.

**17A-17B. Sculpture (2-2) I, II**

Creative design in such materials as clay, wood, stone, concrete, etc. Prerequisites: Art 6A-6B, or permission of instructor.

**61A. Crafts in the Elementary Schools (2) I, II**

A foundation course which develops unification of work of the elementary grades through activities and experiences. These experiences grow out of environmental activities. They include study and working of clay, lumber and tools, textiles, and cardboard construction. Prerequisite: Art 6A.

**61B. Crafts (2) I, II**

Problems involving the application of design principles to various fields—pottery, textiles, weaving, metal work, wood carving, and bookbinding. Prerequisite: Art 6A.

**94A-94B. Costume Design (2-2) Year, I, II**

Original designs of modern costumes suitable to the individual or to distinct types; the drawing of fashion figures; the rendering of fabrics and textures. Prerequisite: Art 6A.

**95A-95B. Interior Design (See Art 195A-195B)****Upper Division Courses****105-S. Classroom Display for Teachers (3) Summer**

A lecture and workshop course for elementary and secondary teachers in principles and techniques of modern display to meet various subject, classroom, and school requirements. Special attention to individual problems and needs.

**106A-106B. Printmaking (2-2) I, II**

Study of print crafts which includes the making of wood engravings, etchings, lithographs, and silk screen prints. Prerequisites: Art A, B, 6A.

**106C. Illustration (2) II**

Same as 106A-B except that printmaking is applied to problems of book illustration. Prerequisites: Art A, B, 6A.

**106D. Advanced Furniture Design (2) I, II**

(See Art 6D) Prerequisite: Art 6D, or permission of instructor.

**107. Color and Design in Merchandise (2) I, II**

(Same course as Bus. Adm. 159)

Principles of line, mass, and color applied to the design of manufactured goods, especially consumer goods, and to merchandise display. Shape and color in relation to utility and sale value. Practical problems. Not open to students with credit for Bus. Adm. 159 or Art 7.

**111A-111B. Industrial Design (2-2) Year, I, II**

Design of objects for manufacture with reference to their use, materials, and in accordance with factory practices and machine techniques. Practice in the techniques of presentation, working drawings, renderings in perspective and scale models. Prerequisite: Art 6A-6B, or permission of instructor.

**112A. Design and Composition (2) I**

Structure in picture making. The controlled use of line, value, color, and texture to organize the effect of depth, movement, volume, etc., in the recognizable image. Oil technique. Prerequisite: Art A-B, 6A-6B.

**112B. Design and Composition (2) II**

Continuation of Art 112A. Prerequisite: Art 112A, or permission of instructor.

**115A-115B. Life Drawing and Painting (2-2) I, II**

Drawing and painting from nude and costume models. Prerequisites: Art A-B.



**115C-115D. Advanced Life Drawing and Painting (2-2) Year, I, II**

Study of human figure in terms of form patterns. Prerequisites: Art 115A-115B.

**116A-116B. Advanced Painting (2-2) Year, I, II**

Painting in oil from still life, landscape, or models, stressing composition. Prerequisite: Art 16A or 16B.

**117A-117B. Advanced Sculpture (2-2) Year, I, II**

Creative design in such materials as clay, wood, stone, concrete, etc. Prerequisites: Art 6A-6B and 17A or 17B, or permission of instructor.

**119A. Ceramics (2) I**

Building of pottery on the basic techniques of coil, slab, mold making, and slip casting. Ceramic sculpture, glazing and kiln operations: Art 6A.

**119B. Ceramics (2) II**

Study of glazes and elementary clay technology. Mold making, slip casting with application to individual creative problems. Prerequisite: Art 119A.

**120A-120B. Advanced Design (2-2) Year, I, II**

Advanced work in pure design, two and three dimensional. Re-examination of color theory and design principles. Prerequisites: Art A-B, 6A-6B.

**161A. Advanced Crafts in the Elementary Schools (2) I, II**

More advanced course which develops unification of work of the elementary grades through activities and experiences. These experiences grow out of environmental activities. They include study and working of clay, lumber and tools, textiles, and cardboard construction. Prerequisite: Art 6A. Not open to students with credit for Art 61A.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**194A-194B. Costume Design (2-2) Year, I, II**

For description, see Art 94A-94B. Prerequisite: Art 6A.

**195A-195B. Interior Design (2-2) I, II**

The consideration of the house as a unit; the arrangement of garden, house, floor plan, and furniture as functional and decorative problems. Prerequisites: Art A and 6A; 195A is a prerequisite for 195B.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

### Graduate Courses

**200A-200B. Special Problems (2-2) I, II**

A graduate course in which students may carry out projects in various fields of art under the direction of faculty members who are specialists in the field chosen. Students registering for this course must apply for work within a certain field after discussions with the art faculty.

**290. Bibliography (1) I, II**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis or Project (3) I, II**

Guidance in the preparation of a project or thesis for the master's degree.

## ASTRONOMY

## IN THE DIVISION OF PHYSICAL SCIENCES

Major work is not offered in astronomy. Students desiring to prepare for advanced work in astronomy should include the following courses: Astronomy 1, 2, 3, 9, and 10; Mathematics 3A-3B, 4A-4B; Physics 4A-4B-4C; a reading knowledge of French and German.

Courses in astronomy may be used as part of the general science major for the junior high school credential and the physical science and general science major for the general secondary credential. For specific information, refer to the outline of requirements for these credentials.

**Minor**

A *minor in arts and sciences* is offered in astronomy. The minor consists of 15 to 22 units in astronomy, nine units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in astronomy; however, astronomy may be used as part of the *general science minor* for the special secondary, the general elementary, and the kindergarten-primary credentials and for the physical science and general science minor for the general secondary credential. For specific information, refer to these credentials.

**Lower Division Courses****\*1. Descriptive Astronomy (3) I, II**

A cultural course planned to develop an appreciation of astronomy with emphasis on the solar system. Attention is given to the methods by which astronomical knowledge has been gained. A six-inch refractor and an eight-inch reflecting telescope are available for observation. A physical science course in general education in the area of the natural sciences.

**\*2. Modern Astronomy (3) II**

A study of the stellar system in the light of modern research, especially photographic and spectrographic. Prerequisite: Astronomy 1 or permission of the instructor. A physical science course in general education in the area of the natural sciences.

**\*9. Practice in Observing. (1) I, II**

A course designed to supplement Astronomy 1. The course will include constellation study, use of astronomical coordinates, and descriptive observations of celestial objects with the telescope. One three-hour evening laboratory period each week. Recommended: Astronomy 1 or concurrent registration in Astronomy 1, or completion of Physical Science 1 or 5. This is a physical science course in general education in the area of the natural sciences. Meets the laboratory requirement in general education.

**10. Advanced Observational Astronomy (1) II**

A continuation of Astronomy 9. More advanced problems in observing will be taken up such as the determination of latitude by observations of Polaris, transit observations, astronomical photography, etc. One three-hour evening laboratory period each week. Prerequisite: Astronomy 9.

**12. Elementary Navigation (3) I**

A study of compass corrections, time, line of position, use of celestial coordinates, etc. A few class hours devoted to the use of tables such as H.O. 214 for the solution of astronomical triangle. One laboratory period each week. Astronomy 1 and 9 desirable.

**Upper Division Courses****103. Astronomical Optics (2) II**

This course aims to acquaint the students with the optics and methods of testing of an astronomical telescope. The course consists of one lecture and one laboratory period each week. The student is required to grind a four-inch astronomical telescope mirror. Prerequisite: Astronomy 1 or permission of instructor.

**\*105. Historic Development of Astronomy (3) I**

A study of the more important problems and astronomical concepts in the light of their historical development. Particular attention is given to the biography and contributions of the more important astronomers, such as, Galileo, Kepler, Newton, Herschel, Bessel, etc. A physical science course in general education in the area of the natural sciences.

**107. Method of Least Squares and Computing Practices (3) I**

Fundamental principles with applications in the fields of astronomy, physics, and engineering. Prerequisite: Math 4A or equivalent.

**110. Introduction to Study of Variable Stars (3) II**

A study will be made of the various types of variable stars, their spectra, periods, methods of observing, etc. In the laboratory the light curve of several typical variables will be observed. Two lectures and one laboratory period each week. Prerequisite: Astronomy 2. Astronomy 9 desirable.

**112. Elementary Astrophysics (3) I**

A lecture course in the application of physics to astronomy: Much of modern astronomical research is in the field of astrophysics. An occasional laboratory period will be substituted by appointment for the lecture period. Prerequisites: Astronomy 2 or college physics.

**113. Surveyor's Course in Practical Astronomy (3) II**

The principles of spherical astronomy adapted to the needs of engineering students. Computation and observation. Two lectures and one three-hour laboratory period each week. Prerequisite: Engineering 1A or permission of the instructor. Astronomy 1 and 9 desirable.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisites: three units in astronomy and permission of instructor.

## BACTERIOLOGY

### IN THE DIVISION OF LIFE SCIENCES

A *major in arts and sciences* is offered in *bacteriology* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses, except that nine units in natural science may be applied toward general education requirements. Lower division requirements: in the major, Bacteriology 1 or 101; in related fields, either Biology 3 and 4, or Zoology 1, or equivalent; Chemistry 1A-1B and Chemistry 5A; and Biology 15, or equivalent. Recommended: French or German; Mathematics 7A-7B; Physics 2A-2B and 3A-3B; and Zoology 8A-8B or Zoology 101. Upper division requirements: 24 units in bacteriology and related fields to include Bacteriology 102, 103, 104, 107, Chemistry 101A, and 115 or equivalent. Zoology 128 and 109 are recommended as courses to be included in the major. A minor is not required of students majoring in bacteriology.

A *major in arts and sciences* is offered in *bacteriology* for the B.S. degree. Courses in the major are in addition to 45 units in general education courses, except that nine units in natural science may be applied toward general education requirements. Lower division requirements: in the major, Bacteriology 1 or 101; in related fields, either Biology 3 and 4, or Zoology 1, or equivalent; Chemistry 1A-1B and 5A; and Biology 15, or equivalent. Recommended: German or French; Mathematics 7A-7B; Physics 2A-2B and 3A-3B; and Zoology 8A-8B. Upper division requirements: 36 units in bacteriology and related fields to include Bacteriology 102, 103, 104, 105, and 107; Zoology 128; and Chemistry 101A and 115 or equivalent. A minor is not required for the B.S. degree.

A *teaching major* is not offered in bacteriology; however, courses in bacteriology are included in the major in *life science and general science* and the major in *health education* for the general secondary credential and the major in *general science* for the junior high school credential. For specific information, refer to these credentials.



### Minor

A *minor in arts and sciences* is offered in *bacteriology*. The minor consists of 15 to 22 units in bacteriology to include Bacteriology 1 or 101, 102, 103, and the remainder of the units to be chosen from Bacteriology 104, 105, 107, and 199. Recommended courses to supplement the minor: Zoology 8A-8B; Chemistry 101A, 115, or equivalent.

A *teaching minor* is not offered in bacteriology; however, bacteriology may be used as part of the *general science minor* for the special secondary, the general elementary, and the kindergarten-primary credentials or as part of the *minor in life science and general science* for the general secondary credential. For specific information, refer to these credentials.

### Lower Division Courses

#### 1. General Bacteriology (Microbiology) (4) I

An introduction to bacteriology. Effects of physical and chemical agencies upon bacteria; biochemical activities of bacteria; microscopic examination and cultivation of bacteria; the bacteria of air, water, soil, milk and dairy products, other foods; industrial applications. Introduction to disease-producing bacteria. Two hours of lecture and six hours of laboratory per week. Prerequisite: Chemistry 1A or 2A. (Chemistry 1A-1B for major or minor in bacteriology.)

### Upper Division Courses

#### 101. General Bacteriology (Microbiology) (4) II

Lectures and laboratory work of Bacteriology 1 with additional work to be prescribed by the instructor. Prerequisite: Chemistry 1A or 2A. (Chemistry 1A-1B for major in bacteriology.)

#### 102. Advanced Bacteriology (4) I

Agents of disease and methods of host resistance. Laboratory experience in diagnosis of bacterial pathogens and antibiotic sensitivity. Concepts of virulence and pathogenicity, considering the host-parasite relationship. Two lectures and six hours of laboratory per week. Prerequisites: Bacteriology 1 or 101; also Chemistry 101A. Recommended: biochemistry and physiology.

#### 103. Fundamentals of Immunology and Serology (4) II

Antigen-antibody reactions, the immunochemistry of protein and nonprotein cell substances, hemo-serology, and theoretical and pathologic aspects of hypersensitivity. Laboratory diagnosis by use of serological techniques. Two lectures and six hours of laboratory per week. Prerequisites: Bacteriology 1 or 101; also Bacteriology 102 and Chemistry 101A. Recommended: biochemistry and physiology.

#### 104. Medical Mycology (3) I

A study of the mycotic agents of disease and methods of systematic identification of such agents. Concept of epidemiology, diagnosis, pathology, and host-responses are considered. Two lectures and three hours of laboratory per week. Prerequisites: Bacteriology 1 or 101; also Bacteriology 102 and Chemistry 101A.

#### 105. Bacterial Metabolism (2) II

A course to provide a basic knowledge of the principles by which micro-organisms derive energy to support the life processes. Prerequisites: Bacteriology 1 or 101, 102, Chemistry 101A. Recommended: biochemistry and Bacteriology 103.

#### 107. Virology (2) I

A survey of viruses and Rickettsias as agents of disease. An introduction to virological techniques, and routes of infection with further consideration of concepts of epidemiology, diagnosis, pathology, and host-responses. Prerequisites: Bacteriology 102, or equivalent, or permission of instructor.

#### 199. Special Study (1-6) I, II

Individual study. Six units maximum credit. Prerequisites: 15 units of work in the life sciences (including courses in bacteriology) with grades of A or B; and permission of instructor.

**Graduate Courses****298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**BIOLOGY****IN THE DIVISION OF LIFE SCIENCES**

Major or minor work is not offered in biology (see bacteriology, botany, life science, and zoology); however, courses in biology may be used as part of the botany, life science, or zoology majors and minors for the A.B. and B.S. degrees, and the bacteriology major for the B.S. degree; or the general science minor for majors in education or the special secondary curriculums; or the life science and general science major and minor for the general secondary credential.

**Lower Division Courses****\*1. The Ideas of Biology (3) I, II**

General concepts of biology with emphasis on the biology of man in relation to modern life. A life science general education course in the area of natural sciences. This course does not meet the laboratory requirement in natural science for general education. Not open to students with credit for Biology 3 or 4; Botany 1, 2A, or 2B; or Zoology 1, 1A, or 1B.

**\*3. Principles of Biology (3) I, II**

A consideration of basic biological phenomena. Two hours of lecture and three of laboratory each week. A life science general education course meeting the laboratory requirement in natural science for general education. Not open to students with credit for Biology 1; Botany 1, 2A, 2B; or Zoology 1, 1A, 1B.

**\*4. Natural History of Plants and Animals (3) I, II**

An introduction to plants and animals in relation to their environments and to one another, with emphasis on local forms and their habitats. Two hours of lecture and three hours of laboratory per week. A life science general education course meeting the laboratory requirement in natural science for general education. Not open to students with credit for Botany 1 or 2A; or Zoology 1 or 1A.

**15. Introduction to Quantitative Biology (3) I, II**

Methods and experience in defining and solving quantitative problems in biology. Two hours of lecture and three hours of laboratory per week. Prerequisites: Two years of high school algebra and a passing grade in Mathematics C competency test or equivalent.

**Upper Division Courses****102. Principles of Taxonomy (2) I**

The classification of living organisms. Rules of botanical and zoological nomenclature, type categories, principles, and procedures. Prerequisite: Biology 15.

**110. Ecology (4) II**

Relationships between organisms and the environment; field study in local marine, fresh water, mountain, chaparral, and desert habitats. Two hours of lecture and six hours of laboratory per week. Prerequisites: Zoology 1 and Botany 1, or Biology 3 and 4; Biology 15; and Chemistry 1A-1B or Chemistry 2A-2B.

**111. Aquatic Biology (4) I**

Biological, chemical and physical consideration of inland waters. Introduction to techniques in fishery biology. Two lectures and two three-hour laboratories per week. Prerequisites: Zoology 1, Zoology 1A-1B, or Biology 3 and 4; Biology 15; Chemistry 1A-1B or 2A-2B; or permission of instructor.

**134. Microtechnique (3) I, II**

Introduction to methods of preparation of plant and animal tissues for microscopic study. One hour of lecture and six hours of laboratory per week. Prerequisites: One year of college chemistry; and Botany 1 or 2A-2B, or Zoology 1 or 1A-1B, or Biology 3. Not open to students with credit for Zoology 104.

**155. Genetics (3) I, II**

Principles of plant and animal genetics, with experiments and demonstrations illustrating the mechanisms of heredity. Two hours of lecture and three hours of laboratory per week. Prerequisites: Botany 1 or 2A-2B, and Zoology 1 or 1A-1B (or Biology 3); and Biology 15. Not open to students with credit for Botany 155 or Zoology 155.

**158. Conservation of Wildlife (3) II**

A survey of plant and animal resources with emphasis on their conservation and intelligent use. Prerequisite: A college course in biology or consent of the instructor. Not open to students with credit for Botany 158 or Zoology 158.

**160. Evolution (2) II**

The development of theories of organic evolution. Prerequisites: Botany 1 and Zoology 1, or Biology 3 and 4. Not open to students with credit for Botany 160 or Zoology 160.

**\*161. History of Biology (3) I, II**

Lectures and reports tracing biological scientific development, with emphasis on the influence of personalities and trends of the times. A life science general education course in the area of the natural sciences.

**170-S. Contemporary Problems in Biology (1)**

A series of six weekly lectures on varied aspects of biology by scientists engaged in research. Reading and reports required of students enrolled for credit. These lectures are open to the public. May be repeated for a total of 3 units.

**189. Clinical Laboratory Procedures (4) II**

Experience in laboratory procedures in the college health services and science laboratories, with instruction in the appropriate fields of the licensing examinations. Twelve hours of laboratory and discussion per week. Prerequisites: Zoology 109; Bacteriology 102, 103, and 104; and Chemistry 114A and 114B, taken concurrently or previously.

**198. Methods of Investigation (2) I, II**

Individual and original investigations in biology; class reports. One hour of discussion and three hours of laboratory per week. Four units maximum credit. Prerequisites: Senior standing and a major in the Division of Life Sciences.

**Graduate Courses****200. Seminar (2) I, II**

An intensive study on an advanced level of one of the following fields of biology. None of the fields may be repeated for credit.

- |                     |                               |
|---------------------|-------------------------------|
| A. Applied Biology  | D. Modern Theories of Biology |
| B. Cellular Biology | E. Morphogenesis              |
| C. Ecology          | F. Speciation                 |

**BOTANY****IN THE DIVISION OF LIFE SCIENCES****Major**

A *major in arts and sciences* is offered in *botany* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Botany 1 and Zoology 1, or Biology 3 and 4; Biology 15; and Chemistry 1A-1B or Chemistry 2A-2B. Recommended: German, French, or Spanish, Bacteriology 1 or 101, and Geology 1A-1B or Geology 2 and 3. (Nine units in natural science may be counted toward general education requirements.) Upper division requirements: A minimum of 24 upper division units, at least 18 of which must be in botany and biology, including Botany 101A-101B, 107, and 114; and six units of which may be in related courses in bacteriology, chemistry, geology, and zoology, selected with the approval of the departmental adviser. A minor is not required.



A *major in arts and sciences* is offered in *botany* for the B.S. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Botany 1 and Zoology 1, or Biology 3 and 4; Biology 15; and Chemistry 1A-1B or Chemistry 2A-2B. Recommended: German, French, or Spanish, Bacteriology 1 or 101, and Geology 1A-1B or Geology 2 and 3. (Nine units in natural science may be counted toward general education requirements.) Upper division requirements: 36 units in botany and related fields, including Botany 101A-101B, 107, 114, and Biology 155. Chemistry 101A and Biology 161 are strongly recommended.

A *teaching major* is not offered in botany; however, courses in botany are included in the *major in life science and general science* for the general secondary credential and the *major in general science* for the junior high school credential. For specific information, refer to these credentials.

#### Minor

A *minor in arts and sciences* is offered in *botany*. The minor consists of 15 to 22 units in botany, six units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in botany; however, botany may be used as part of the *general science minor* for the special secondary, the general elementary, and the kindergarten-primary credentials or as part of the *minor in life science and general science* for the general secondary credential. For specific information, refer to these credentials.

#### The Master's Degree

The master of arts degree for teaching service is offered with a concentration in botany under the major of life science. See section of this catalog entitled "The Master's Degree."

#### Lower Division Courses

##### 1. General Botany (5) I, II

Fundamentals of structure, general behavior, and interrelationships of plants. Three hours of lecture and six hours of laboratory per week. Not open to students with credit for Botany 2A-2B.

#### Upper Division Courses

##### 101A-101B. Plant Morphology (4-4) Year, I

The first semester covers the development and phylogenetic relationships of the algae, fungi, and bryophytes. The second semester covers the structure, development, and phylogenetic relationships of the vascular plants. Two hours of lecture and six hours of laboratory per week. Prerequisites: Botany 1, or Biology 3 and 4.

##### 107. Plant Physiology (4) II

The activities of plants, including food manufacture, absorption, conduction, transpiration, respiration, growth and movement. Two lectures and six hours of laboratory per week. Prerequisites: Botany 1 or permission of instructor, and Chemistry 2A-2B or equivalent.

##### 114. Systematic Botany (4) II

Kinds, relationships, systematic arrangement, and geographical distribution of vascular plants; collection and identification. Two hours of lecture and six hours of laboratory per week. Prerequisites: Botany 1 or equivalent. Biology 102 is recommended.

##### 119-S. Field Botany (4) Summer

Local native vegetation with emphasis on ecological units within floristic areas. Primarily for students not majoring in the Life Science Division. Two units of lecture and two units of laboratory.

##### 126. Plant Pathology (4) II

A practical course dealing with the principles of disease in plants, control measures, and quarantine procedures. Emphasis is placed on the determination and control measures of those pathogenic organisms which affect crops, trees and shrubs and nursery stock. Two lectures and six hours of laboratory per week. Prerequisites: Botany 1 or equivalent and Botany 101A-101B.

**162. Agricultural Botany (2) II**

A study of California crop plants, their general identification, cultural methods, and regional distribution. Field trips to be arranged. Prerequisite: Botany 1 or equivalent.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisites: 15 units in botany with grades of A or B; and permission of instructor.

**Graduate Courses****290. Bibliography (1) I, II**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis or Project (3) I, II**

Guidance in the preparation of a project or thesis for the master's degree.

**BUSINESS ADMINISTRATION****IN THE DIVISION OF BUSINESS ADMINISTRATION****Majors**

*Majors* in various fields of *business administration* are offered for the B.S. degree by the Division of Business Administration which consists of four departments: **Accounting Department**, offering a major in accounting; **Management Department**, offering majors in banking and finance, credit management, business management, industrial management, insurance, and personnel management (under the A.B. program); **Marketing Department**, offering a major in marketing; **Business Education Department**, offering majors in business education, office management, and secretarial management.

Each major is in addition to 45 units in general education courses. A minor is not required. Students electing to take a minor must select one outside the field of business administration. Each major is described below, under the department offering the major.

**Minors**

*Minors* in various fields of *business administration* are offered to students who have majors in fields other than in business administration. Each minor is described below, under the department offering the minor.

**The Master's Degree**

The master of arts degree for teaching service is offered with a major in business education. The master of science degree is offered with a major in business administration. See action of this catalog entitled "The Master's Degree."

**Certificate in Industrial Management**

Admission to candidacy for the Certificate in Industrial Management is open to all industrial employees without reference to previous academic experience. Candidacy will be established by approval of the Coordinator of Industrial Management after the applicant has satisfactorily completed six units of applicable courses. To receive the certificate the candidate must complete a total of 30 units of approved courses with a 2.5 average or better. Credit for any course below the grade of C shall not be counted toward the certificate.

Courses required of all candidates are as follows: Bus. Adm. 80, 102, 135, 136, 139, 140, E-142, 144. Approved electives are as follows: Bus. Adm. 116, 131, 137, E-143, 145, 146, 147, 155, 173; Economics 140, 150, 151.

**DEPARTMENT OF ACCOUNTING****Major**

**Accounting.** Lower division: Business Administration 1A-1B, 2, 30A-30B, 80, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Business Administration 100, 101, 102, 106, 131 (or Economics 135), 134, 150, Economics 140; and 12 units selected from Business Administration 103, 107, 108, 112, 113, 114, 115, 116, 119, 130A, 131, Economics 135. In addition to 45 units of general education, three upper division elective units outside of business administration or economics are required.

**Minor**

A *minor in arts and sciences* is offered in *accounting* to students who are not business administration majors. The minor consists of 15 to 22 units in accounting, of which Business Administration 1A-1B must be included, and 9 units in courses carrying upper division credit, to include Business Administration 100.

**DEPARTMENT OF MANAGEMENT****Majors**

**Banking and Finance.** Lower division: Business Administration 1A-1B, 2, 30A-30B, 80, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Business Administration 100, 131, 133, 134, 150, Economics 135, 140; and 15 units selected from the following: Business Administration 120, 121, 127, 128, 129, 144, 145, Economics 102, 111, 131, 138, 142, 170, 171, 172, 190. In addition to 45 units of general education, three upper division elective units outside of business administration or economics are required.

**Credit Management.** Lower division: Business Administration 1A-1B, 2, 30A-30B, 80, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Business Administration 128, 129, 131 (or Economics 135), 134, 144, 150, Economics 140; and 15 units selected from the following: Business Administration 100, 101, 115, 116, 131, 136, 138, 145, 151, and 173. In addition to 45 units of general education, three upper division elective units outside of business administration or economics are required.

**Business Management.** Lower division: Business Administration 1A-1B, 2, 30A-30B, 80, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Business Administration 100, 131 (or Economics 135), 134, 140, 144, 150, Economics 140; and 15 units selected from the following: Business Administration 120, 121, 127, 128, 130A, 130B, 131, 133, 135, 138, 145, 146, 153, 155, Economics 111, 131, 135, 138, 142, 150, 151, and 170. In addition to 45 units of general education, three upper division elective units outside of business administration or economics are required.

**Industrial Management.** Lower division: Business Administration 1A-1B, 2, 30A-30B, 80, Engineering 2, 23, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Business Administration 102, 131 (or Economics 135), 134, 135, 140, 144, 150, Economics 140; six units selected from the following: Business Administration 136, 137, 138, 139; and six units selected from the following: Business Administration 100, 115, 120, 131, 145, 146, 147, 155, 173, 175, Economics 111, 135, 142, 150, 151, 152, 170, and Psychology 124. In addition to 45 units of general education, three upper division elective units outside of business administration or economics are required.

**Insurance.** Lower division: Business Administration 1A-1B, 2, 30A-30B, 80, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Business Administration 120, 121, 124, 125, 131 (or Economics 135), 134, 150, Economics 140; and 12 units selected from the following: Business Administration 127, 130A, 130B, 131, 133, 144, Economics 111, 131, 135, 138, 142, 170, 171, and 185. In addition to 45 units of general education, three upper division elective units outside of business administration or economics are required.

**Personnel Management.** This curriculum, offered with the A.B. degree, includes work in three fields: business administration, economics, and psychology. Lower division requirements: Business Administration 1A and 80; Economics 1A-1B; and Psychology 6. Upper division requirements: 36 upper division units consisting of the following courses: Business Administration 134, 144, 146, 147; Economics 150, 151, 152; and Psychology 104A, 105, 121, 131, 152. Four additional upper division units must be completed to meet the minimum 40 upper division units required for the A.B. degree.



**Minors**

A *minor in arts and sciences* is offered in *banking and finance* to students who are not business administration majors. The minor consists of 15 to 22 units and must include Business Administration 1A-1B, Economics 1A-1B, Business Administration 134, and Economics 135.

A *minor in arts and sciences* is offered in *business management* to students who are not business administration majors. The minor consists of 15 to 22 units and must include Business Administration 1A-1B, Economics 1A-1B, Business Administration 134 and six additional units of upper division courses approved by the adviser in this field.

A *minor in arts and sciences* is offered in *credit management* to students who are not business administration majors. To minor in credit management the student must complete 15 to 22 units including Business Administration 1A-1B, 30A-30B, 128, 129, and three additional units of upper division courses approved by an adviser in this field.

A *minor in arts and sciences* is offered in *insurance* to students who are not business administration majors. Students desiring such a minor will include Business Administration 1A-1B, 30A-30B, and nine upper division units which must include Business Administration 120 and either Business Administration 121 or 124.

**DEPARTMENT OF MARKETING****Major**

**Marketing.** Lower division: Business Administration 1A-1B, 30A-30B, 50, 80, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Business Administration 134, 144, 150, 158, 131 (or Economics 135), Economics 140; and 18 units to be selected from the following: Business Administration 100, 120, 128, 145, 146, 151, 152, 153, 155, 156, 157, 159, 160, Economics 170, 171, 190. In addition to 45 units of general education, three upper division elective units outside of business administration or economics are required.

**Minor**

A *minor in arts and sciences* is offered in *marketing* to students who are not business administration majors. This minor consists of 15-22 units to include Economics 1A-1B, in the lower division, and nine units of courses carrying upper division credit, to include Business Administration 150 and the additional six units to be selected with approval of the adviser in marketing.

**DEPARTMENT OF BUSINESS EDUCATION****Majors**

**Business Education.** This major is primarily for the student planning to take the general secondary credential with business education as the teaching major subject.

**Lower Division.** Business Administration 1A-1B, 30A-30B, 72 or equivalent, 73, 80, Economics 1A-1B; and the lower division courses in two of the subfields listed below, of which *accounting* or *secretarial* must be one.

**Upper Division.** A minimum of 36 upper division units to include the following: Bus. Adm. 131 or Economics 135, Bus. Adm. 134, 150, 158, 175, 176, 178, 189, Economics 140; and the upper division courses in the same two subfields which were selected in the lower division:

**Accounting subfield.** Business Administration 2 and six units selected from Business Administration 100, 102, or 106.

**Secretarial subfield.** Business Administration 75B or equivalent, and Business Administration 183A-183B.

**Business Management subfield.** Business Administration 2 and six upper division units selected in consultation with the adviser in business education.

**Merchandising subfield.** Business Administration 50 and six units selected from Business Administration 151, 152, 153, or 159.

**Office Management.** Lower division: Business Administration 1A-1B, 30A-30B, 71 (or equivalent), 73, 80, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Bus. Adm. 131 or Economics 135, Bus. Adm. 134, 150, 173, 175, 176, 178, Economics 140; and 15 units to be selected from the following: Bus. Adm. 100, 102, 128, 144, 146, 196, Economics 170, Psychology 121.

**Secretarial Management.** Lower division: Business Administration 1A-1B, 30A-30B, 72 (or equivalent), 73, 75A-75B (or equivalent), 80, and Economics 1A-1B. Upper division: A minimum of 36 upper division units to include Bus. Adm. 131 or Economics 135, Bus. Adm. 134, 150, 173, 175, 176, 178, 183A-183B, Economics 140; and 9 units to be selected from the following: Bus. Adm. 106, 120, 133, 144, 153, 196.

#### **Major for Teaching Credentials**

A *teaching major in business education* is offered for the special secondary and general secondary credentials. For a statement of requirements, refer to these credentials.

#### **Minors**

A *minor in arts and sciences* is offered in *business education* to students who are not business administration majors. This minor consists of 15 to 22 units to include Business Administration 71 and 72 (or equivalents) 1A-1B, and nine units of courses carrying upper division credit to be selected with approval of the adviser in business education.

A *minor in arts and sciences* is offered in *secretarial management* to students who are not business administration majors. This minor consists of 15-22 units. The student must demonstrate competency equal to that required in Business Administration 72 before he can be admitted to the minor program. The minor must include Business Administration 75A-75B, or their equivalent, in the lower division, and 12 units in the upper division to include Business Administration 183A-183B, 175, 176, and 178.

#### **Minor for Teaching Credentials**

A *teaching minor in business education* is offered for the general secondary credential. For a statement of requirements, refer to this credential.

### **BUSINESS ADMINISTRATION COURSES**

#### **Lower Division Courses**

#### **1A-1B. Principles of Accounting (3-3) I, II**

The balance sheet; profit and loss statement; the opening, conducting, and closing of books for different kinds of businesses; organizations, reorganizations, dis-solutions, and consolidations, etc., keeping in view the best modern accounting practice. Four hours lecture and laboratory. (1A is a prerequisite for 1B.) (Formerly Business 14A-14B.)

#### **2. Mathematics of Finance (3) I, II**

Interest and annuities; amortization; sinking funds; valuation of bonds; depreciation; mathematics of building and loan associations. Prerequisites: Two years of algebra in high school, or equivalent.

#### **30A-30B. Business Law (3-3) I, II**

The fundamental principles of business law. Cases showing the actual application of the principles to business transactions. The subjects covered: First semester, to include contracts, sales, agency, personal property; second semester, negotiable instruments, real estate property, wills, partnerships, corporations, and insurance. (30A is a prerequisite for 30B.) (Formerly Business 18A-18B.)

#### **50. Salesmanship (2) I, II**

Theoretical and psychological backgrounds of salesmanship; newer concepts of selling; the selling of ideas and services; steps in a sale: Attention, interest, desire, closing; the development of clienteles and of good will; the personal factor in salesmanship. (Formerly Business 25.)

#### **71. Beginning and Personal-use Typewriting (3) I, II**

Fundamentals of typewriting. Development of personal-use skills. Not open to students with credit for high school typewriting. (Formerly Business 1A or 2A.)

#### **72. Typewriting (3) I, II**

Advanced typewriting. Production work and problem typing. Prerequisite: Business Administration 71 or equivalent. (Formerly Business 1B.)

**73. Office Machines (1 to 3) I, II**

The operation of calculators and adding-listing machines and their application to business problems. (Formerly Business 3ABC and 105A.)

**75A-75B. Shorthand (3-3) I, II**

Gregg shorthand theory; dictation and transcription. (75A or equivalent is prerequisite to 75B.) (Formerly Business 5A-5B.)

**76. Advanced Shorthand (3) I, II**

Development of speed in writing and transcription. Prerequisites: Business Administration 75A-75B or equivalent. (Formerly Business 6A-6B.)

**80. Business Writing (3) I, II**

Written communications in typical business situations. Prerequisites: English 1 and Business Administration 71 or equivalent. (Formerly Business 8.)

**Upper Division Courses****100. Intermediate Accounting (3) I, II**

Theories and principles underlying balance sheets of partnerships and corporations. Prerequisites: Bus. Adm. 1A-1B. (Formerly Business 160A.)

**101. Advanced Accounting (3) I, II**

Problems involved in ventures, consignments, installment sales, estate accounting, consolidations, insurance and foreign exchange. Prerequisite: Bus. Adm. 100. (Formerly Business 160B.)

**102. Cost Accounting (3) I, II**

Basic theories and practices of materials costing, labor costing, and overhead absorption as applied to process and job order cost systems. Prerequisites: Bus. Adm. 1A-1B. (Formerly Business 161A.)

**103. Advanced Cost Accounting (3) II**

Theories and practices of job order and process cost systems including standard costs and costs for special managerial decisions. Prerequisites: Bus. Adm. 102. (Formerly Business 161B.)

**106. Income Tax Accounting (3) I, II**

Theory and procedures in the preparation of federal and California income tax returns for individuals. Prerequisites: Bus. Adm. 1A-1B. (Formerly Business 164A.)

**107. Advanced Income Tax Accounting (3) II**

Theory and procedures in the preparation of federal and California income tax returns for partnerships, corporations, and fiduciaries; brief survey of social security and estate and gift taxes. Prerequisite: Bus. Adm. 106. (Formerly Business 164B.)

**108. Governmental Accounting (3) I**

A comparative study of accounting systems used by municipalities, counties, and the State of California; detailed comparisons with commercial practice; procedures in handling budget accounts, appropriations, and encumbrances; subsidiary records; cost records; internal checks; auditing. Prerequisites: Bus. Adm. 100 and 101, or consent of instructor. (Formerly Business 167.)

**112. Auditing (3) I**

General principles of auditing; duties, ethics, and responsibilities of the auditor; procedures for verification of financial records used by public accountants and internal auditors; auditor's opinion and report. Prerequisites: Bus. Adm. 100 and 101. (Formerly Business 165A.)

**113. Advanced Auditing (3) II**

Application of auditing principles in verification of financial statements; types, limitations, contents and review of working papers; preparation of reports; current status and trends in the development of auditing standards and procedures. Prerequisite: Bus. Adm. 112. (Formerly Business 165B.)



**114. Accounting Systems (3) II**

General principles underlying the design and installation of accounting systems; methods and procedures used in various types of businesses; familiarization with various types of accounting machines presently available. Prerequisites: Bus. Adm. 100, 102. (Formerly Business 162.)

**115. Financial Statements (3) I, II**

The construction, composition, analysis and interpretation of accounting reports with particular emphasis on the form, content and phraseology of reports. Prerequisites: Bus. Adm. 100. (Formerly Business 163.)

**116. Internal Auditing and Controllorship (3)**

The place and functions of the controller and internal auditor in business enterprises; accounting systems and methods related to functions as internal check and audit control of routine transactions. Prerequisites: Bus. Adm. 100 and 101. (Formerly Business 168.)

**119. C. P. A. Review (3) I**

An intensive review of the accounting principles and procedures covered in the accounting theory and accounting practice sections of the uniform C. P. A. examination prepared by the American Institute of Accountants. Prerequisites: Bus. Adm. 100, 101, 102, 103, 106, 107, 108, 112, 113. (Formerly Business 169.)

**120. General Insurance (3) I, II**

History of insurance; economic and social implications; principles of insurance contracts; theory of risk; law of large numbers. Survey of all major insurance fields and policies including life, fire, marine, inland marine, casualty and surety bonding. (Formerly Business 125.)

**121. Property and Casualty Insurance (3) I, II**

All standard forms of insurance except life; includes automobile, liability, workmen's compensation and disability, fire, marine, and inland marine. Legal interpretation of contract coverages; underwriting problems, marketing of insurance, government supervision and control. Prerequisites: Bus. Adm. 120, 30A-30B. (Formerly Business 126.)

**E-123A—E-123B. C. P. C. U. Preparation (3-3) Extension**

Preparation for Chartered Property and Casualty Underwriter examination. Content to be selected by instructor from: Parts I and II—Insurance Principles and Practices; Part III—General Education; Part IV—Law; Part V—Accounting, Finance and Agency Management. (Formerly Business E-129.)

**124. Life Insurance Principles and Practices (3) I, II**

Economic and social aspects of life insurance; nature of life insurance and annuity contracts; basic legal principles; theory of probabilities, premiums, reserves, and nonforfeiture values; company operational activities; agency development and management. (Formerly Business 127A.)

**125. Life Insurance Underwriting (3) I, II**

Programing fundamentals with emphasis upon economic, actuarial, and legal principles, program coordination and integration with wills; guardianships; estate planning fundamentals; taxation; business life insurance. Analysis of life insurance selling as a career. Prerequisite: Bus. Adm. 124. (Formerly Business 127B.)

**E-126A—E-126B. C. L. U. Preparation (3-3) Extension**

Preparation for Chartered Life Underwriter examination. Content to be selected by instructor from: Part A—Life Insurance Fundamentals; Part B—General Education; Part C—Law, Trusts, and Taxes; Part D—Finance; Part E—Life Underwriting. (Formerly Business 128A to F.)

**127. Real Estate Principles and Practices (3) II**

(Same course as Economics 139)

Functions and regulation of the real estate market; transfers of property, including escrows, mortgages, deeds, title insurance; appraisal techniques; financing methods; leases; subdivision development; property management. Not open to students with credit for Economics 139. (Formerly Business 139.)

**128. Credits and Collections (3) I, II**

The credit man and his work, including the instruments with which he works, sources of credit information, the technique of his department, collection methods, legislation for the protection of debtor and creditor, and credit insurance. Prerequisites: Bus. Adm. 1A-1B. (Formerly Business 137.)

**129. Credit Management (3) II**

Problems involved in credit and financial management, including methods of developing credit policies, organizing a credit department or institution, supervising and coordinating the work of subordinates in the credit field. Prerequisite: Bus. Adm. 128. (Formerly Business 138.)

**130A-130B. Advanced Business Law (3-3) I, II**

Principles and rules of law. First semester includes contractual relationships, obligations, and trade regulation. Second semester includes acquisition and disposition of property, both real and personal. Either semester may be taken first. (Formerly Business 118A-118B.)

**131. Corporation Finance (3) I (Same course as Economics 133)**

The corporate form of organization, instruments of long-time finance, methods of raising capital, efficient financial management, the financing of reorganizations, and governmental control. Not open to students who have credit for Economics 133. (Formerly Business 133.)

**133. Investments (3) I, II**

Investment principles and practices with emphasis upon problems of the small investor, such as tests of a good investment, sources of information, types of stocks and bonds, mechanics of purchase and sale, investment trusts, real estate mortgages, and the like. (Formerly Business 134.)

**134. Business and Industrial Management (3) I, II**

Principles and practices of business management as applied to industrial organization and operation; emphasis upon efficient utilization and control of resources. Prerequisites: Economics 1A-1B. (Formerly Business 121.)

**135. Production Systems and Control (3) I, II**

(Same course as Engineering 173)

Forecasting and estimating; authorization to manufacture; order, flow, block and load control; continuous versus intermittent production; use of drawings; tabulation of data; coordination of production with other factory departments. Not open to students with credit for Engineering 173. Prerequisite: Bus. Adm. 134. (Formerly Business 173.)

**136. Methods and Standards (3) I, II (Same course as Engineering 176)**

Work simplification through methods improvement; operations analysis; flow charts; calculation of time standards, work and speed analysis; new developments in job timing and motion economy study; time reduction curves; work standards. Not open to students with credit for Engineering 176. Prerequisites: Bus. Adm. 134, 135. (Formerly Business 176.)

**137. Plant Layout and Materials Handling (3) II**

Principles of effective plant layout and materials handling methods; emphasis on process analysis, operation sequence analysis, location and layout of production service, storage, packing, and loading facilities. Prerequisite: Bus. Adm. 135. (Formerly Business 174.)

**138. Industrial Purchasing (3) I**

Policies for purchasing raw materials, fabricated parts, supplies, machinery and industrial equipment; procedures and records control; quantity and price considerations; bid analysis and award procedure; follow-up; vendor relations; legal problems; quality control; receiving and inspection; inventory control. Prerequisite: Bus. Adm. 134. (Formerly Business 175.)

**139. Quality Control (3) (Same course as Engineering 177 and Mathematics 177)**

Statistical techniques; tolerances and variants; standards; organization for inspection; inspection methods for raw materials, work in process, and finished products; control of inspection devices. Not open to students with credit for Engineering 177 or Mathematics 177. Prerequisites: Bus. Adm. 134, 135, or equivalents, and either Economics 140 or Mathematics 12. (Formerly Business 177.)

**140. Organization and Management Theory (3)**

Administrative principles and their application to the objectives, organization, planning, policies, and controls of a business. Prerequisites: Senior standing, Bus. Adm. 134 and 144.

**E-142. Manufacturing and Tooling Administration (3) Extension  
(Same course as Engineering E-179)**

Production breakdown and relationship to manufacturing plan and tooling policy; planning, processing, and control required to activate program into production. Relationship of design engineering, tool project engineering, and tool manufacturing to production. Not open to students with credit for Engineering E-179. Prerequisite: Bus. Adm. 135 or permission of instructor. (Formerly Business E-179.)

**E-143. Systems and Procedure Analysis (3) Extension**

The application of scientific management principles to administrative systems; analysis of paperwork flow, and forms design; communication, feedback and control techniques; economic analysis of alternative types of equipment; preparation of written procedures. Prerequisites: Bus. Adm. 8, 100, and 134.

**144. Personnel Management (3) I, II**

Problems and philosophies in the management of personnel relations. Selecting, training, supervising and rating employees. Methods used by management in job evaluation; wage and salary payment plans; employee services; health and safety; union relationships; stimulation of interest. (Formerly Business 153.)

**145. Human Relations in Management (3) I, II**

(Same course as Political Science 145)

Human factors in supervision and management. Problems of incentives, attitudes, communication, and other personal relations between employee and employer. Effectiveness of various types of leadership. Discipline and grievances. Not open to students with credit for Political Science 145. (Formerly Business 157.)

**146. Wage and Salary Administration (3) I**

(Same course as Political Science 146)

Job analysis; major techniques of job evaluation; problems of wage and salary administration, incentive pay methods; merit rating plans. Not open to students with credit for Political Science 146. (Formerly Business 154.)

**147. Supervisory Staff and Employee Training (3) II**

(Same course as Political Science 155)

Training as a management function and as an aspect of communication; operating methods and structure of training departments; types of training; evaluation of training results. Teaching methods and use of teaching aids. Not open to students with credit for Political Science 155. (Formerly Business 155.)



**150. Marketing Principles (3) I, II**

Study of marketing functions; activities of producers, wholesalers, retailers and other middlemen; channels of distribution; integration of marketing activities; price policies; government regulation. Prerequisites: Economics 1A-1B. (Formerly Business 123.)

**151. Marketing Problems (3) II**

An advanced course dealing with practical aspects of marketing. Solutions of problems faced by producers, wholesalers, retailers and other middlemen in the marketing of their products. Prerequisite: Bus. Adm. 150. (Formerly Business 124.)

**152. Retailing Principles (3) I, II**

Study of retail stores, emphasizing the problems of store managers and merchandising executives; store location, organization, personnel, sales promotion, buying and handling of merchandise, inventory, turnover, and control methods. Problems of profitable operation under changing conditions. (Formerly Business 24.)

**153. Advertising Principles (3) I, II**

Advertising as a sales promotional tool in marketing activities; consumer, market and product analysis; advertising media; preparation of advertisements; measurement of advertising effectiveness; economic and legal aspects of advertising; public relations; advertising campaigns. Not open to students with credit for a lower division course in advertising. (Formerly Business 182.)

**155. Public Relations (3) I (Same course as Journalism 180)**

Principles, methods, and objectives in the field of public relations; evaluation of the "publics" of institutions and industry; case studies of public relations problems. Prerequisites: Journalism 51A-51B, or permission of the instructor. Not open to students with credit for Journalism 180. (Formerly Business 180.)

**156. Radio and Television Station Management and Advertising (3) I**

(Same course as Speech Arts 181)

Administrative and commercial methods of radio and television station operation. Advertising trends in broadcasting; audience and program measurement; publicity and promotion; traffic. Prerequisites: Speech Arts 81A and 81B, or equivalent, and permission of the instructor. Not open to students with credit for Speech Arts 181. (Formerly Business 181.)

**157. Market Research (3) II**

The solution of business problems by formal research techniques. The procedures of research are developed by considering actual business problems such as determining marketing potential, brand preferences, and sales forecasts. Prerequisites: Bus. Adm. 150, Economics 140.

**\*158. Consumer Income Management (3) I, II**

Functions and responsibilities of consumers; problems of choice-making; planning expenditures for housing, household operation, insurance and investments. Economics of installment buying, borrowing procedures, control of frauds, legislation affecting consumers. A general education course in family life education. (Formerly Business 20 or 120.)

**159. Color and Design in Merchandise (2) I, II**

(Same course as Art 107)

Principles of line, mass, and color applied to the design of manufactured goods, especially consumer goods, and to merchandise display. Shape and color in relation to utility and sale value. Practical problems. Not open to students with credit for Art 7 or 107.

**160. Merchandise Analysis (3) I (Same course as Home Economics 160)**

Characteristics, merits, limitations, care, and selling points of the more important textile and nontextile products. Stress on manufacturing processes as they affect consumer demands. Not open to home economics majors. Not open to students with credit for Home Economics 160.

**166. Honors Course I, II (Credit to be arranged)**

Refer to the Honors Program.

**173. Office Management (3) I, II**

Functions, facilities, techniques, organization and personnel relationship of the business office. (Formerly Business 103A.)

**175. Office Systems (3) I, II**

Principles and techniques used in formulating and installing modern office systems, including the interrelating functions of business machines. Prerequisite: Bus. Adm. 73. (Formerly Business 105A.)

**176. Office Machines Methods (2) I, II**

Methods and theories of voice-writing, addressing, and duplicating machine operation as applied to office procedures. (Formerly Business 105B.)

**178. Records Management (1) I, II**

Systems of preparing, keeping, storing and disposing of office records, including the use of equipment and supplies. (Formerly Business 108.)

**180-S. Typewriting Workshop (2) Summer**

Recent developments in the teaching of typewriting. Opportunity for teachers to develop teaching units in typewriting in cooperation with the workshop staff. (Formerly Business 191-S.)

**181-S. Office Practice Workshop (2) Summer**

Workshop for teachers in office practice, office machines; development of teaching materials and procedures. (Formerly Business 192-S.)

**182-S. Cooperative Business Work Experience (1 or 2) Summer**

Work experience for teachers in a selected field of interest in business or industry. The experience may be concentrated or extended through the term. Individual counseling and group discussion. (Formerly Business 193-S.)

**183A-183B. Executive Secretarial Procedures (3-3) I**

Analysis of and practice in the executive secretarial procedures in modern offices; includes review for the *Certified Professional Secretary* examination. Prerequisites: Bus. Adm. 72 and 75B or their equivalents. (Formerly Business 113A-113B.)

**189. Objectives and Curricula in Business Education (3) I**

Scope, function, and curricula of business education in the secondary schools. (Formerly Business 190.)

**196. Work Experience (2) I, II**

Supervised work in cooperating stores or offices; relationship between theory and practice in specific business conditions. Prerequisite: permission of instructor.

**198A-198B. Investigation and Report (1 to 3 each semester) I, II**

A comprehensive and an original study of a problem connected with business under the direction of one or more members of the business staff. Prerequisites: Senior standing and permission of the instructor. 198A is a prerequisite for 198B.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

### Graduate Courses

**200. Seminar in Accounting Theory (3)****205. Advanced Problem Analysis (Accounting) (2)**

The study of conditions causing various accounting problems with special emphasis upon the theory and practices involved in their solution. Prerequisites: Bus. Adm. 100, 101, 102, 112. (Formerly Business 260.)

**220. Seminar in Management (3) I, II**

An intensive study of some phase of management such as

- (a) Industrial Organization and Management
- (b) Personnel Management
- (c) Finance
- (d) Insurance

May be repeated with new subject matter for additional credit.

**250. Seminar in Marketing (3)****270. Seminar in Business Education (2) I, II**

An intensive study of some phase of Business Education such as administration and supervision, distributive education, and basic business education. May be repeated with new subject matter for additional credit. (Formerly Business 200, 213, 221, 223, 233.)

**271. Seminar in Office Management (2)**

An intensive study of the problems of office management and their solution. The relation of records, reports, budgets and manuals to managerial control. Prerequisites: Bus. Adm. 1A-1B, 173. (Formerly Business 203.)

**290. Bibliography (1)**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**296. Directed Field Experience (1-6)**

Students lacking practical experience in the occupational field will be assigned to cooperating businesses in the community for work under joint supervision of the supervisor for the business and the course instructor. Required in addition to the 30 units required for the master of science degree, when previous experience is lacking or not acceptable.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree. Students have an option of a comprehensive examination or a thesis or project, with approval of the graduate office.

**CHEMISTRY****IN THE DIVISION OF PHYSICAL SCIENCES****Major**

A *major in arts and sciences* is offered in *chemistry* for the A.B. and for the B.S. degrees. Courses in the major are in addition to 45 units in general education courses. These curricula are outlined below.

A *teaching major in physical science and general science* is offered for the general secondary school credential and a *teaching major in general science* is offered for the junior high school credential. For statement of requirements, refer to these credentials.

**Minor**

A *minor in arts and sciences* is offered in *chemistry*. The minor consists of 15 to 22 units, six units of which must be in courses carrying upper division credit. Chemistry 1A-1B, or its equivalent, must be included in the minor.

A *teaching minor in physical science and general science* is offered for the general secondary, special secondary, general elementary, and kindergarten-primary credentials. For statement of requirements, refer to these credentials.

**The Master's Degree**

The master of arts degree for teaching service is offered with a major in chemistry. The master of science degree is offered with a major in applied chemistry. See section of this catalog entitled "The Master's Degree."



### Curricula for Chemistry Majors in Arts and Sciences

*Bachelor of Science Degree in Chemistry.* The curriculum outlined below for the B.S. degree is based upon the recommendations of the Committee for Professional Training of Chemists of the American Chemical Society. It qualifies graduates for many types of positions as chemists and provides the training required by most universities for admission to graduate work in chemistry. This department is on the approved list of the American Chemical Society. The degree may be obtained without the certificate of the American Chemical Society by proper substitution of courses for the German requirement. A minor is not required of students taking the B.S. degree.

#### B.S. Degree and Certificate of the American Chemical Society

	Units			Units	
	1st Sem.	2d Sem.		1st Sem.	2d Sem.
<i>First year</i>			<i>Second year</i>		
Chemistry 1A-1B .....	5	5	Chemistry 5A-5B .....	4	4
Physics 4A .....	—	4	Physics 4B-4C .....	4	4
Mathematics 3A-3B .....	3	3	Mathematics 4A-4B .....	3	3
*Health Education 21 .....	2	—	†*German 1, 2 .....	3	3
*Psychology 1 .....	—	3	*Speech Arts 3 .....	2	—
*Biology 1 or 3 .....	3	—	*Social Science .....	—	3
*English 1 .....	3	—	*P. E. activity .....	$\frac{1}{2}$	$\frac{1}{2}$
*P. E. activity .....	$\frac{1}{2}$	$\frac{1}{2}$			
	16 $\frac{1}{2}$	15 $\frac{1}{2}$		16 $\frac{1}{2}$	17 $\frac{1}{2}$
	1st Sem.	2d Sem.		1st Sem.	2d Sem.
<i>Third year</i>			<i>Fourth year</i>		
Chemistry 101A-101B .....	4	4	Chemistry 111 .....	—	3
Chemistry 102A-102B .....	1	1	‡Advanced Chemistry .....	9	8
Chemistry 110A-110B .....	3	3	*Lit., Phil., and Arts .....	3	—
†German 8A-8B .....	3	3	Electives .....	4	4
*Social Science .....	3	3			
*Lit., Phil., and Arts .....	3	—		16	15
	17	14			

\* General education courses (nine units of chemistry, physics, and mathematics may be applied toward general education requirements).

† The B.S. degree may be obtained without the Certificate of the American Chemical Society by substituting for the German courses, six units of general education courses and six units of electives.

‡ Must include four units lecture and one unit laboratory in chemistry courses requiring three full year-courses in chemistry as prerequisites. Remainder may include courses in related subjects by approval of department. May not include Chemistry 105.

*Bachelor of Arts Degree in Chemistry.* Two programs are outlined below for the A.B. degree in chemistry. **Plan A** is offered for students who wish to take the A.B. degree and at the same time meet the recommendations of the American Chemical Society and the requirements of most universities for admission to graduate work in chemistry. The degree may be obtained without the certificate of the American Chemical Society by proper substitution of courses for the German requirement. **Plan B** is designed for students who do not intend to become professional chemists, but who desire the major in chemistry as part of a general education or in preparation for training in a related profession. By proper choice of electives, graduates can meet the requirements for admission to medical schools. The sequence of courses listed under Plan B represents the minimum technical requirement for an A.B. degree with a major in chemistry. A minor is required of chemistry majors taking the A.B. degree.

**Plan A: The A.B. Degree and Certificate of the American Chemical Society**

	Units			Units	
	1st Sem.	2d Sem.		1st Sem.	2d Sem.
<i>First year</i>			<i>Second year</i>		
Chemistry 1A-1B .....	5	5	Chemistry 5A-5B .....	4	4
Physics 4A .....	—	4	Physics 4B-4C .....	4	4
Mathematics 3A-3B .....	3	3	Mathematics 4A-4B .....	3	3
*Health Education 21 .....	2	—	†*German 1, 2 .....	3	3
*Psychology 1 .....	—	3	*Speech Arts 3 .....	2	—
*Biology 1 or 3 .....	3	—	*Social Science .....	—	3
*English 1 .....	3	—	*P. E. activity .....	$\frac{1}{2}$	$\frac{1}{2}$
*P. E. activity .....	$\frac{1}{2}$	$\frac{1}{2}$			
	16 $\frac{1}{2}$	15 $\frac{1}{2}$		16 $\frac{1}{2}$	17 $\frac{1}{2}$
<i>Third year</i>	1st Sem.	2d Sem.	<i>Fourth year</i>	1st Sem.	2d Sem.
Chemistry 101A-101B .....	4	4	Chemistry 111 .....	—	3
Chemistry 102A-102B .....	1	1	‡Chemistry electives .....	2	3
Chemistry 110A-110B .....	3	3	Minor (U. D.) .....	3	3
†German 8A-8B .....	3	3	*Lit., Phil., and Arts .....	3	4
*Social Science .....	3	3	Electives .....	6	—
*Lit., Phil., and Arts .....	3	—			
	17	14		14	13

\* General education courses (nine units of chemistry, physics, and mathematics may be applied toward general education requirements).

† The A.B. degree may be obtained without the Certificate of the American Chemical Society by substituting for the German courses, six units of general education courses and six units of electives.

‡ Must include four units lecture and one unit laboratory from courses requiring three full year-courses in chemistry as prerequisites.

**Plan B: The A.B. Degree for Related Professions**

	Units			Units	
	1st Sem.	2d Sem.		1st Sem.	2d Sem.
<i>First year</i>			<i>Second year</i>		
Chemistry 1A-1B .....	5	5	Chemistry 5A-5B .....	4	4
*Physics 2A-2B .....	3	3	†*French or German .....	3	3
*Physics 3A-3B .....	1	1	*Speech Arts 3 .....	2	—
*Mathematics 7A-7B .....	3	3	*Health Education 21 .....	—	2
*English 1 .....	3	—	*Biology 1 or 3 .....	3	—
*Psychology 1 .....	—	3	*Lit., Phil., and Arts .....	—	3
*P. E. activity .....	$\frac{1}{2}$	$\frac{1}{2}$	Elective .....	3	3
	15 $\frac{1}{2}$	15 $\frac{1}{2}$	*P. E. activity .....	$\frac{1}{2}$	$\frac{1}{2}$
				15 $\frac{1}{2}$	15 $\frac{1}{2}$
<i>Third year</i>	1st Sem.	2d Sem.	<i>Fourth year</i>	1st Sem.	2d Sem.
Chemistry 101A-101B .....	4	4	Chemistry 111 .....	—	3
Chemistry 102A-102B .....	1	1	‡Chemistry electives .....	3	2
Chemistry 110A-110B .....	3	3	*Social Science .....	3	—
*Social Science .....	3	3	Minor .....	3	3
*Lit., Phil., and Arts .....	3	—	Electives .....	7	7
*Elective .....	3	3			
	17	14		16	15

\* General education courses.

† Six units of general education courses may be substituted for the French or German.

‡ May not include Chemistry 105.

**Lower Division Courses****1A-1B. General Chemistry (5-5) Year, I, II**

General principles of chemistry with emphasis on inorganic materials. Three lectures and two three-hour laboratory periods per week. Qualitative analysis is included in the second semester. Prerequisites: Elementary algebra and plane geometry. Recommended: High school chemistry, physics, and additional mathematics.

**\*2A-2B. Fundamentals of Chemistry (3-3) Year, I**

A general course including inorganic, organic, and biological chemistry for students not intending to take further work in chemistry. Two lectures and one three-hour laboratory period per week. A physical science course in general education meeting the laboratory requirement in natural science. Not open to students with credit for Chemistry 1A-1B.

**5A. Elementary Quantitative Analysis (4) I, II**

Theoretical consideration of the principles of gravimetric and volumetric analysis. Practice in standardizing reagents and analyzing samples. Two lectures, and two three-hour laboratory periods per week. Prerequisite: Chemistry 1A-1B, and facility in the use of logarithms and slide rule.

**5B. Quantitative Analysis (4) II**

Further work in the theory and practice of volumetric and gravimetric analyses and the study of electro analytical methods. Two lectures and two three-hour laboratory periods per week. Prerequisite: Chemistry 5A.

**Upper Division Courses****101A-101B. Organic Chemistry (4-4) Year, I**

The first semester lecture stresses aliphatic compounds and includes an introduction to aromatic compounds. The second semester stresses the aromatics, continues with more complex aliphatics and introduces mechanisms of organic reactions. Three lectures and one three-hour laboratory period per week. Prerequisites: Chemistry 1A-1B.

**102A-102B. Organic Chemistry Laboratory (1-1) Year, I**

Synthesis of typical aliphatic and aromatic compounds. Study of the theory and practice of laboratory operations. One three-hour laboratory period per week. Open only to students enrolled concurrently in Chemistry 101A-101B.

**105. Advanced Quantitative Analysis (4) II**

Advanced work in the theory and practice of volumetric, gravimetric, and electroanalysis. Two lectures and two three-hour laboratory periods per week. Prerequisite: Chemistry 5A. Not open to students with credit for Chemistry 5B.

**110A-110B. Physical Chemistry (3-3) Year, I**

Theoretical principles of chemistry with emphasis on mathematical relations. Three lectures per week, problems and reports. Prerequisites: Physics 2A-2B, or equivalent; Math. 4B, or equivalent; Chemistry 5A-5B.

**111. Physical Chemistry Laboratory (3) II**

Physico-chemical apparatus and measurements, with emphasis on technical report writing. Discussion period and three three-hour laboratory periods per week. Prerequisite: Chemistry 110B, or concurrent registration with permission of the instructor.

**114A-114B. Clinical Biochemistry (4-4) Year, II**

Principles of biochemistry and analytical methods applied to blood, urine, and other body fluids. This course cannot apply to the major in chemistry. Two lectures and two three-hour laboratories per week. Prerequisites: Chemistry 5A, 101A.

**115. General Biochemistry (4) I**

The chemistry and metabolism of carbohydrates, fats, and proteins. Three lectures and one three-hour laboratory period per week. Prerequisites: Chemistry 5A-5B, 101A-101B, or permission of instructor.



**118. Colloid Chemistry (2) II (Offered 1956-57 and alternate years)**

The theoretical principles of colloid chemistry and the preparation, properties and practical applications of colloids. Two lectures per week. Prerequisites: Chemistry 101A, 110A and 110B.

**122. Glass Blowing (1) I (Offered 1957-58 and alternate years)**

Elementary training in the manipulation of glass. Prerequisite: Chemistry 1A-1B. One three-hour laboratory period per week.

**127. Advanced Inorganic Chemistry (3) II  
(Offered 1957-58 and alternate years)**

A lecture course dealing with such topics as the physical basis of the periodic system, complex inorganic compounds, and the nature of the chemical bond. Three lectures per week. Prerequisites: three years of chemistry.

**130. Chemistry for Elementary Teachers (3) Summer**

Practical chemistry designed to develop an understanding of basic concepts, methods and materials of chemistry used in the elementary school. Lectures, demonstrations, and field trips. Not open to students with previous credit in chemistry. No prerequisites.

**144A-144B. Principles of Chemical Engineering (3-3) Year, I  
(Not offered 1956-57)**

Industrial stoichiometry, flow of fluids, heat transfer, unit processes and types of industrial equipment. Three lectures per week, problems and reports, prerequisite: credit or registration in Chemistry 110A-110B.

**154. Organic Qualitative Analysis (3) (Offered 1957-58 and alternate years)**

A systematic study of the identification of organic compounds and mixtures. One lecture and two three-hour laboratory periods per week. Prerequisites: Chemistry 5B or 105, 101B.

**155. Instrumental Methods of Analysis (3) I  
(Offered 1956-57 and alternate years)**

Theory and practice of modern methods of instrumental analysis, including use of pH meters, colorimeters, spectro-photometers, and other analytical devices. Discussions, reports, field trips, special individual projects. One lecture and two three-hour laboratory periods per week. Prerequisites: three year-courses in chemistry.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisites: open only to students who have shown ability to do A or B work in chemistry; permission of instructor.

**Graduate Courses****200. Seminar (2 or 3) I, II**

An intensive study of some phase of advanced chemistry, such as chemical kinetics; molecular structure; photochemistry, electrochemistry. May be repeated with new subject matter for additional credit.

**210A-210B. Mathematics of Chemistry and Physics (3-3) I, II**

(Same course as Mathematics 210A-210B or Physics 210A-210B)

An introduction to the mathematical processes which form a basis for advanced work in one of the physical sciences. First semester: selected topics introducing the student to the mathematical approach in the solution of scientific problems. Second semester: applications of mathematical principles to specific problems in chemistry and physics. Prerequisites: Graduate standing and acceptance into master of science degree program.

**290. Bibliography (1) I, II**

Exercise in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**296. Directed Field Experience (1-6)**

Meets the requirement of directed field experience for candidates for the master of science degree, but is not limited to candidates for the degree. Required in addition to the 30-unit requirement for the degree.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3) I, II**

Guidance in the preparation of a project or thesis for the master's degree.

**COMPARATIVE LITERATURE****IN THE DIVISION OF HUMANITIES**

All reading assigned for classes in comparative literature is in English translations, and no knowledge of any foreign language is required.

Major work is not offered in comparative literature; however, courses in this field may be used as part of the English major in arts and sciences. For specific information, refer to English.

Courses in comparative literature may be used as part of the teaching major in English for the general secondary and junior high school credentials with the approval of the departmental representative. For specific information, refer to the outlines of requirements for these credentials.

**Minor**

A *minor in arts and sciences* is offered in *comparative literature*. The minor consists of 15 to 22 units in comparative literature, nine units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in comparative literature; however, courses in this field may be used as part of the teaching minor in English for the general secondary, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

**Lower Division Courses****\*52A-52B. Masterpieces of World Literature (3-3) Year, I**  
(Same course as English 52A-52B)

A chronological survey from Homer to modern times. The first semester stresses the classical epic and tragedy. The second semester stresses more recent literature, including prose fiction, the drama, and the essay. Not open to students with credit for English 52A-52B. A general education course in literature, philosophy, and the arts.

**Upper Division Courses****\*101A-101B. Modern Continental Fiction (3-3) Year, I**  
(Same course as English 101A-101B)

Selected novels and short stories of continental Europe from Tolstoy's time to the present. First semester, Russian and Scandinavian works; second semester, French, German, and Italian works. A general education course in literature, philosophy, and the arts.

**\*104A-104B. Spanish-American Literature (3-3) I**

For a description of this course, see Spanish 104A-104B, which may be taken for credit in Comparative Literature by doing the required reading in English translation. A general education course in literature, philosophy, and the arts.

**\*115. The Bible as Literature (3) I (Same course as English 115)**

A study of the narrative, poetry, and prophecy of the King James version of the Bible. Readings, reports, lectures, and discussions. A general education course in literature, philosophy, and the arts. Not open to students with credit for English 115.

**\*138. Introduction to Aesthetic Appreciation (1) I**  
(Same course as Aesthetics 138)

Major forms of expressions and aesthetic experience in art, music and literature, presented by an interdepartmental staff through lectures, demonstration, and panel discussions. A general education course in literature, philosophy, and the arts. Not open to students with credit for Aesthetics 138.

**\*140A-140B. Masterpieces of French Literature (3-3) Year, I**

A cultural course designed to be given in introduction to the great French works from the Song of Roland through Cyrano de Bergerac, with emphasis on the sixteenth, seventeenth, eighteenth and nineteenth century authors. The contributions to world thinking of Rabelais, Montaigne, Moliere, Racine, Descartes, Pascal, Montesquieu, Voltaire, Rousseau, Hugo, Balzac, Flaubert, Maupassant, Zola, will be studied through lectures and outside readings. A general education course in literature, philosophy, and the arts.

**\*142. The Golden Age of German Literature (3) II (Offered 1957-58)**  
(Same course as German 142)

Masterpieces of German literature from the eighteenth and early nineteenth centuries. A general education course in literature, philosophy, and the arts. Not open to students with credit for German 142.

**\*152A-152B. World Drama (3-3) Year, I (Same course as English 152A-152B)**

Study of selected tragedies and comedies from Asiatic, European, English, and American literature, with emphasis upon the human problems depicted therein and upon the timelessness of certain themes, such as those of Electra and Medea. Lectures, discussions, and reports on readings. A general education course in literature, philosophy, and the arts. Not open to students with credit for English 152A-152B.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

## ECONOMICS

### IN THE DIVISION OF SOCIAL SCIENCES

#### Major

A *major in arts and sciences* is offered in *economics* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Economics 1A-1B; Business Administration 1A-1B. Upper division requirements: 24 units in economics to include Economics 100A, 100B and 140. Six of the 24 units may be in related fields, selected with the approval of the departmental adviser. A minor is required.

A *teaching major in social sciences* is offered for the general secondary and junior high school credentials. For a description of these majors, refer to the credentials.

#### Minor

A *minor in arts and sciences* is offered in *economics*. The minor consists of 15 to 22 units in economics, nine units of which must be in courses carrying upper division credit.

A *teaching minor in economics* is offered for the general secondary school credential or as part of the *social science minor* for the special secondary, general elementary, and kindergarten-primary credentials. For a statement of requirements, refer to these credentials.

#### The Master's Degree

The master of arts degree for teaching service is offered with a concentration in economics under the major of social science. See section of this catalog entitled "The Master's Degree."



**Lower Division Courses****\*1A-1B. Principles of Economics (3-3) Year, I, II**

The basic principles of economics: Business organization and production; money, credit and banking, depression problems; prices, competition, and monopoly; income distribution; public finance; international trade; economic systems. Aims of course: Foundation for further study, business pursuits, and intelligent economic citizenship. A general education course in social science. Prerequisite: 1A prerequisite for 1B.

**Upper Division Courses****100A. Intermediate Economic Theory (3) I**

Economic theory with special reference to the theory of the firm and the industry; value and distribution. Prerequisite: Economics 1A-1B.

**100B. Intermediate Economic Theory (3) II**

Economic theory with special reference to national income analysis and the theory of investment. Prerequisite: Economics 1A-1B.

**\*102. Comparative Economic Systems (3) II**

The economic aspects of laissez-faire and regulated capitalism, cooperatives, socialism, communism, nazism, fascism. Experience in Russia, Germany, United States, Great Britain. Criteria for evaluating economic systems. The individual and government in each system. Planning in a liberal capitalistic society. A general education course in social science.

**105. Economics of Consumption (3) I**

An analysis of the determination of consumer demands, the relationship of the consumer to the price system, the effects of consumption and saving upon income and employment, the effects of monopoly and advertising upon consumers' welfare.

**110. Economic History of Europe (3) I**

A general survey of economic development from the Middle Ages to the present. Particular attention is given to the impact of the Industrial Revolution on national economics, especially on England's commerce and industry.

**\*111. Economic History of the United States (3) II**

A comprehensive survey of American economic development and of national legislation in the field of industry and commerce. A general education course in social science.

**127. Agricultural Economics (3) II**

Major problems of finance, markets, conservation, overproduction, economic institutions and governmental policy, in relation to agriculture. Emphasis on regional problems.

**\*131. Public Finance (3) II**

Principles and practices of taxation and public expenditures. Economic effects of public spending, debts and taxation. Financing social security and other services. Fiscal policy and prosperity. Relation to inflation and deflation. Special emphasis on social problems involved. A general education course in social science.

**133. Corporation Finance (3) I, II**

(Same course as Business Administration 131)

The corporate form of organization; instruments of long-time finance; methods of raising capital, efficient financial management, financing of organizations, and government control. Not open to students with credit for Business Administration 131.

**135. Money and Banking (3) I, II**

The elements of monetary theory. History and principles of banking with special reference to the banking system of the United States.

**138. Urban Land Economics (3) I**

Analysis of major influences affecting city location and growth; role of private and governmental institutions in influencing residential and other uses of land; major considerations in appraising, managing, financing, marketing, developing and taxation of urban property. Discussion of San Diego problems.

**139. Real Estate Principles and Practices (3) II**  
(Same course as Business Administration 127)

Functions and regulation of the real estate market; transfers of property, including escrows, mortgages, deeds, title insurance; appraisal techniques; financing methods; leases; subdivision development; property management. Not open to students with credit for Business Administration 127.

**140. Statistical Methods (3) I, II**

Statistical method in the social sciences. Tabular and graphical presentation. Frequency and time series analysis. Index numbers and correlation techniques. Prerequisite: Mathematics A-B, and C, or equivalent. Not open to students with credit for Sociology 103, Psychology 104A, 104B.

**142. Business Cycles (3) I**

Fundamental factors in business cycles are analyzed and cycle theories are examined. Study of current business conditions begins early in the course and develops into practical application of forecasting methods to both business and other data. Prerequisite: Economics 1A-1B.

**150. Labor Problems (3) I, II**

A study of labor organizations and their policies, wages, strikes, unemployment, social insurance, child labor, labor legislation, plans for industrial peace, and other labor problems.

**151. Labor Legislation (3) I**

Labor-management relations; fair labor standards; arbitration and conciliation of industrial disputes. Federal, state and local laws dealing with these subjects.

**152. Collective Bargaining (3) II**

Structures of labor relations; management and union problems; public policy and collective bargaining; conditions of successful collective bargaining. (Formerly Economics 151.)

**166. Honors Course (Credit to be arranged) I, II**  
Refer to the Honors Program.**\*170. Government and Business (3) I, II**

General survey of governmental activities affecting business; the state as an entrepreneur and manager; governmental assistance to business; governmental regulation of business in its historical, legal and economic aspects, including recent developments in the United States and abroad; proposed policies. A general education course in social science.

**171. Transportation (3) I**

The development of railway transportation; railroad financing; rates and rate making; governmental regulation; government operation of railroads during the war; recent development of motor and air transportation. Prerequisite: Economics 1A-1B.

**172. Public Utilities (3) II (Not offered 1956-57)**

The growth of public utilities in the United States; economics of public utility rates; valuation; public regulation and its legal basis; public ownership; transportation problems. Prerequisites: Economics 1A-1B.

**185. Social Insurance (3) II**

Old age pensions, health insurance, unemployment insurance, and Social Security Act. Strength and weakness of existing systems.

**190. International Economics—Principles (3) I**

National welfare and foreign trade. Principle of comparative costs, comparative advantages in various nations. Foreign exchange and the balance of payments, financing foreign trade. Regulations over trade and obstructing factors. Techniques of exporting and importing. Doctrines of international trade.

**195. International Economics—Problems (3) II**

Important aspects of international cooperation and conflict in the economic sphere, conditions essential to future cooperation. The quest for foreign markets, raw materials, investment opportunities and population outlets. Commercial policies, international economic conferences and organizations. Colonial rivalries and postwar problems.

**198. Investigation and Report (3) I, II**

Designed to stimulate independent study and investigation; to furnish guidance in the collection, organization, and presentation of factual material; to improve the technique of term reports. For economics majors only.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****200A-200B. Seminar in the Development of Economic Thought (3-3) Year, I, II**

A critical study of the development of economic thought and of contemporary economic thought, in order to provide a clearer understanding of major economic problems of the day.

**201. Seminar (3) I, II**

An intensive study of some phase of economics. The course may be repeated for each subject for additional credit. (a) Money and Banking, (b) International Economics, (c) Public Finance, (d) Value and Distribution, (e) Labor Economics. Additional credit may be obtained if repeated with new materials. Prerequisite: consent of instructor.

**290. Bibliography (1)**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree.

**EDUCATION****IN THE DIVISION OF EDUCATION****Major**

A *teaching major in education* is offered for the general elementary and kindergarten-primary credentials. For a statement of requirements, refer to these credentials. A major in education is not offered in arts and sciences.

**Minor**

A *minor in arts and sciences* is offered in *education*. This minor consists of 15 to 22 upper division units in education selected with approval of the chairman of the Department of Education.

A *teaching minor* is not offered in education.

Students will be admitted to education courses only when they are admitted to teacher education or have permission from the chairman of the Department of Education. Experienced teachers may take education courses for which they have the prerequisites. Students who take a minor in education must have been regularly admitted to teacher education. (See Admission to Teacher Education.)



### **The Master's Degree**

The master of arts degree is offered with a major in education. See section of this catalog entitled "The Master's Degree."

### **Lower Division Courses**

- A. Review of Arithmetic (0) I, II**
- H. Review of Handwriting (0) I, II**
- R. Review of Reading (0) I, II**
- S. Review of Spelling (0) I, II**

Noncredit courses designed to increase competence in the skill subjects. For students who do not qualify on the respective sections of the Fundamentals Test required of all applicants to teacher education.

### **Upper Division Courses**

#### *Social Foundations*

- 100. The Secondary School (4) I, II**

Orientation toward understanding teaching as a profession, and the public school as a social institution. Overview of history, aims, scope, function, outcomes, principles, and problems of American elementary and secondary education. Field work, including audio-visual experiences, required. (Formerly Education 184A.)

- 101. History and Philosophy of Education (2) I, II Summer**

Historical backgrounds and underlying philosophies upon which the public school system has been established. Emphasis on the meaning of education, educational aims and values, and democracy and education. Prerequisite: Senior standing or the equivalent; minimum of 12 units of education. (Formerly Education 115A.)

- 102. Secondary Education (3) Irregular**

An introduction to understanding the development of secondary education and its present status as a social institution. (Formerly Education 115B.)

#### *Psychological Foundations*

- 110. Development and Learning (4) I, II**

To acquaint the student in secondary education with the nature of development and the learning process, with consideration of mental hygiene, guidance and the place of audio-visual aids. Field work required. (Formerly Education 184B.) Prerequisite: Education 100.

- 111. Educational Psychology (2) I, II Summer**

(Same course as Psychology 130)

To develop understanding of the applications of psychological research for effective classroom teaching. Observation and field work required. Prerequisite: Psychology 1. (Formerly Education 130.) Not open to students with credit for Psychology 130.

- 112. Child Growth and Development (3) I, II Summer**

Study of the mental, emotional, social, and physical development during childhood and early adolescence. Directed observation required. Should precede Education 151 for elementary candidates. (Formerly Education 102B.)

- 113. Growth and Development of the Adolescent (3) Irregular**

Study of adolescent physiological, psychological, social, and emotional development, including principles of mental hygiene and guidance. Field work with adolescent groups in the community is required. (Formerly Education 102C.)

- 114. Interpretation of Early Childhood Behavior (3) Summer**

For kindergarten-primary teachers treating the analysis and interpretation of early childhood behavior. Emphasis on understanding and interpreting the causative factors in typical behavior of children to parents, social workers, teachers, and others concerned with the guidance of kindergarten-primary children. (Formerly Education 146B.)

**115. Guidance in Elementary Education (3) I, II Summer**

A study of the basic principles of guidance and their function in the educational process as applied in the elementary school. (Formerly Education 155.)

**116A-116B-116C. Child Study Laboratory (2-2-2) I, II**

Development of background and procedures for child study and their application to field situations. Field work required. For teachers in service. Education 116A is prerequisite for 116B, and 116B is prerequisite for 116C. (Formerly Education 187A-187B-187C.)

**118. Supervision of Child Welfare and Attendance (3) Summer**

Content includes laws relating to children, guidance principles, social case work, agency relationships, conference techniques, home visitation methods, employment supervision, attendance work, child accounting, familiarity with testing techniques. (Formerly Education 158.)

*Methods—Secondary***120. The Teaching Process (4) I, II**

To develop teacher competency at the secondary level in professional and community relationships, and in planning teaching, and evaluating learning activities (with emphasis on the use of audio-visual resources and the development of class morale). Field work required. Prerequisites: Education 110 and consent of the instructor. (Formerly Education 184C.)

**121. Methods and Materials of Instruction and Audio-visual Aids****Major (2), Minor (2)**

Professional courses in specific teaching fields taken just prior to or concurrently with the first directed teaching assignment. Each course emphasizes the application of best practice with reference to each subject area named. (Formerly Education 100B.)

Subject fields for sections in 121 are as follows:

**Offered in the Fall Semester**

- 121A. Methods in Art
- 121B. Methods in English
- 121C. Methods in Home Economics
- 121D. Methods in Industrial Arts
- 121E. Methods in Romance Language
- 121G. Methods in Music
- 121H. Methods in Phys. Ed. (Men)
- 121J. Methods in Phys. Ed. (Women)
- 121K. Methods in Physical Science
- 121L. Methods in Speech Arts
- 121M. Methods in Social Science

**Offered in the Spring Semester**

- 121B. Methods in English
- 121D. Methods in Industrial Arts
- 121F. Methods in Mathematics
- 121N. Methods in Life Science
- 121J. Methods in Phys. Ed. (Women)
- 121M. Methods in Social Science

**Offered Irregularly**

- 121P. Methods in Health Education
- 121Q. Methods in Accounting
- 121R. Methods in Merchandising
- 121S. Methods in Shorthand
- 121T. Methods in Secretarial Subjects
- 121U. Methods in Typing

**122. Reading in Secondary Education (3) II**

The nature of the reading program, development of techniques and skills, vocabulary development, reading in the content fields, the differentiated attack, measurement, diagnosis, and remediation. (Formerly Education 154.)

**123. Driver Education (2) Summer**

A workshop type course designed to prepare teachers of the course in high school. Enrollment by permission of the instructor. (Formerly Education 191.)

**124. Advanced Driver Education (2) Summer**

An advanced workshop dealing with special problems in driver education, including legal and sociological aspects, administration, and special training techniques. Prerequisite: Education 123, or equivalent. (Formerly Education 192-S.)

**125. Organization and Administration of Music Education (2) II**

Administration of an instrumental music program: purchase, care, depreciation of instruments and equipment; developing interest; ethics; schedule-making; operation and maintenance of music library; personnel and equipment records; the achievement point system; the marching band show; rehearsal procedure. (Formerly Education 145A.)

**126. Workshop in Secondary Education (3 or 6) Summer**

Designed to meet the needs of individuals or groups of teachers who wish to develop or continue to study of some problem with the consultation of the college staff and the San Diego County Curriculum Staff. (Formerly Education 189.)

*Methods—Elementary***130. First Elementary Education Practicum (13) I, II**

Curriculum, principles, methods and materials of instruction (including audio-visual), and participation in elementary education, in the areas listed in A through G below. Prerequisite: Admission to elementary education. (Formerly Education 147.)

130A. Arithmetic in Elementary Education (2-3) I, II, Summer

130B. Art in Elementary Education (2) I, II, Summer

130C. Language Arts in Elementary Education (2-3) I, II, Summer

130D. Music in Elementary Education (2) I, II, Summer

130E. Reading in Elementary Education (2-3) I, II, Summer

130F. Observation and Participation (2) I, II

130G. Curriculum (1) I, II

**131. Second Elementary Education Practicum (7) I, II**

Curriculum, principles, methods and materials of instruction (including audio-visual), and participation in elementary education, in the areas listed in A through D below. Prerequisite: Education 130. (Formerly Education 148.)

131A. Social Studies in Elementary Education (2-3) I, II, Summer

131B. Science in Elementary Education (2-3) I, II, Summer

131C. Directed Teaching (2) I, II

131D. Curriculum (1) I, II

**132. Kindergarten-Primary Practicum (4) I, II Summer**

A continuation of Education 131 and will accompany Education 181 in the kindergarten. A study of the theory of early childhood education providing experience with children of nursery school and kindergarten ages. Prerequisites: Education 130 and 131. (Formerly Education 146.)

**133. Literature in Elementary Education (3) Irregular**

Criteria for the selection of children's literature, children's reading interests, the development of units of instruction in the social studies, the use of the verse choir, dramatic readings and similar procedures, and the use of the library. (Formerly Education 126.)

**134. Laboratory in Elementary Education (3) Summer**

A general course in observation and theory, including a study of arithmetic, reading, language, music, science, social studies, art, spelling. Students in this course will observe in the summer demonstration school and discuss with the staff the teaching procedures. (Formerly Education 149A.)

**135. Workshop in Elementary Education (3 or 6) Summer**

To meet the needs of individual or groups of teachers who desire to study selected problems in elementary education. The observation of classroom teaching will be provided for members in attendance. Interested persons should correspond with the Coordinator of Elementary Education, San Diego State College. (Formerly Education 149D.)



**136. Music Literature for Elementary Teaching (3) Summer**

Music literature for singing, expressive movement, listening, playing instruments, and creative activities, stressing integration of these activities with the total classroom program. Prerequisites: Music 7A and teaching experience; or permission of instructor. (Formerly Education 117C).

**137. Reading Difficulties (3) I Summer**

Reading difficulties, their causes, prevention, and correction. Remedial practices in reading useful to the classroom teacher, school counselor, and reading specialist. Prerequisites: Education 112, or equivalent, and Education 130E or 122; or permission of instructor. (Formerly Education 144).

**138. Curriculum in Elementary Education (3) Irregular**

Emphasis upon the selection and development of content, teaching methods, and materials as they relate to social needs; evaluation procedures; psychological principles, and the nature of the learner. (Formerly Education 125).

*Audio-Visual***140. Audio-visual Instruction (3) I, II Summer**

Audio-visual materials and techniques as they affect learning; operation of equipment. Three hours of lectures and two hours of laboratories per week. (Formerly Education 174).

**141. Creating Audio-visual Materials for Classroom Use (3) Irregular**

Practice in the creation and evaluation of instructional materials, such as 35 mm. film strips, 16 mm. films, scripts, recordings and other audio-visual materials. Prerequisite: Education 140, or equivalent. (Formerly Education 175).

**142. Television and Radio in the Classroom (3) Summer**

The use of television and radio programs as instructional aids in the classroom. Prerequisites: Education 140, or equivalent, and teaching experience. (Formerly Education 173).

*Measurement***150. Psychological Testing (3) I, II (Same course as Psychology 105)**

The basic principles of testing. The selection and critical evaluation of group tests of intelligence, personality, aptitude, interest and achievement. Prerequisite: One of the following courses: Psychology 5, 11; Education 151, 152. Not open for credit to students with credit for Psychology 105. (Formerly Education 105A).

**151. Measurement and Evaluation in Elementary Education. (3) I, II Summer**

The use of intelligence and achievement tests in the diagnosis and improvement of learning; construction of objective examinations; problems of evaluation in education; the elements of statistical techniques. Should follow Education 112 for elementary candidates. (Formerly Education 102A).

**152. Measurement and Evaluation in Secondary Education (2) Irregular**

Problems of evaluation in secondary education, construction of examinations, the elements of statistics, the selection and interpretation of standardized measures, and appraisal of audio-visual instructional materials. Field work required. Prerequisite: Education 111. (Formerly Education 102D).

*Honors Course***166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

*Exceptional Children***170. Exceptional Children (3) I or II**

Characteristics and adjustment problems of mental, physical, and emotional deviates. (Formerly Education 181).

**171. Curriculum and Methods for Mentally Retarded Children (3) II or Summer**

Selection, organization and presentation of curricular materials for mentally retarded children. (Formerly Education 182).

**172. Workshop for Teaching the Mentally Retarded (3-6) Summer**

Curriculum and methods of teaching, integrated with a demonstration class. Particular emphasis on the arts and crafts program. Opportunities will be provided for teachers to develop materials of instruction. To meet California credential requirements in the areas described. Students with credit for Education 171 are limited to enrollment in 3 units. (Formerly Education 185).

**173. Vision Testing and Hygiene (2) Irregular**

Measurement of visual acuity including an analysis of vision tests, hygiene and physiology of the eye, conservation of sight, and classroom adaptation for the visually handicapped. (Formerly Education 186).

**176. Advanced Speech Correction (3) II (Same course as Speech Arts 176)**

Etiology and treatment of the more severe speech deviations such as cleft palate, voice disorders, aphasia and cerebral palsy. Prerequisites: Speech Arts 150 and 170. Not open to students with credit for Speech Arts 176.

**177. The Teaching of Lip Reading (2) Summer**  
(Same course as Speech Arts 177)

History, theory and methods of lip reading. Aids for the classroom teacher, program and materials of instruction for the specialized teacher. Not open to students with credit for Speech Arts 177.

**178. Aural Rehabilitation (3) Summer (Same course as Speech Arts 178)**

The adjustment of the hard-of-hearing group with emphasis on the public school child. State and county hearing programs; audiometric techniques with practice; educational, classroom, and social problems. Meets audiometric certification requirement.

**179. Nervous Speech Disorders (3) I (Same course as Speech Arts 179)**

Clinical survey of newest methods of speech correction with special emphasis given to stuttering. (Minimum of 25 laboratory hours required per semester.) Required course for special corrective credential. Not open to students with credit for Speech Arts 179. (Formerly Education 179A-179B.)

*Student Teaching***180. Directed Teaching—Secondary (2-12) I, II**

Systematic observation, participation and teaching under supervision in a junior or senior high school. During each semester of student teaching a weekly conference period is required as indicated in the time schedule. Prerequisites: Admission to teacher education; education program approved by the Coordinator of Secondary Education. Any grade below C is unacceptable for a credential. (Formerly Education 116A).

**181. Directed Teaching—Elementary (2-12) I, II**

Systematic observation, participation and teaching under supervision in the Campus Elementary School or affiliated elementary schools. During each semester of student teaching a weekly conference period is required as indicated in the time schedule. Prerequisites: Admission to teacher education; education program approved by the Coordinator of Elementary Education. Any grade below C is unacceptable for a credential. (Formerly Education 116A).

**182. Directed Internship (1-6) I, II**

Extensive daily participation or teaching in public schools in preparation for a second credential when Directed Teaching has been taken for a prerequisite credential. Application should be made during the preceding semester. Preregistration required. (Formerly Education 116B.)

*Conference and Special Courses***190. Conference on the Teaching of Mathematics (1) Summer**

Lectures, discussions, and demonstrations on problems in teaching of mathematics in the elementary and secondary schools. Designed for teachers, supervisors, and administrators interested in current developments in this area. Course may be taken three times for credit. (Formerly Education 129C.)

**191. Guidance Conference (1) Summer**

A series of lecture and discussion sessions centering on current problems in counseling and guidance. Designed to serve the needs of any person desiring to keep informed of developments in this area. Admission upon permission of the director of this conference. Course may be taken three times for credit. (Formerly Education 156.)

**192. Audio-visual Conference (1) Summer**

A series of lectures, discussions and demonstrations, centering on problems in the use of audio-visual instructional materials. Designed for teachers, administrators, audio-visual representatives, and others interested in current developments in this area. Course may be taken three times for credit. Does not fulfill credential requirement. (Formerly Education 171.)

**199. Special Study (1-6) I, II, and Summer**

Individual study. Six units maximum credit. Prerequisites: open only to senior and graduate students in education who have shown ability to work independently; permission of instructor.

**Graduate Courses**

For general requirements for admission to graduate courses, see statement on Admission to Graduate Status in section on Admission and Registration. In addition to these general requirements, 12 units of professional education are prerequisite for enrollment in all graduate courses.

*Sociological Foundations***205. History of Education (3) Summer**

Advanced study of the history of education with emphasis on educational practices as related to present day problems. Prerequisite: Education 101 or equivalent.

**206. Philosophy of Education (3) Summer**

Advanced study of philosophical backgrounds of educational thought; a study of comparative philosophies, and an analysis of selected current trends and problems. Prerequisite: Education 101 or equivalent.

**207. Educational Sociology (3) Summer**

A study of the social, economic, political and moral setting in which present day American education functions. Prerequisite: Education 101, or equivalent, teaching experience.

**208. Workshop in Community Influences on Learning and Curriculum Planning (3 or 6) Summer**

Advanced study of community influences on learning and child growth and development, and of group techniques; implications for curriculum planning. Provides opportunity for work on individual problems of the participants. Prerequisite: teaching experience.

*Educational Psychology***220. Advanced Educational Psychology (3) I, II, Summer**

Advanced study of the research and its application to learning and human growth. Prerequisite: Education 111, or equivalent, teaching experience.

**221. Seminar in Educational Measurement (3) Summer**

Problems in educational testing. Emphasis upon construction, administration, and validation of teacher-made tests. Prerequisite, one of the following: Education 117, or 150, or 151, or 152, or equivalent.

**222. The Gifted Child (3) I, Summer**

The abilities and characteristics of the intellectually gifted or talented; related problems of curriculum, teaching, administration and guidance. Prerequisite: Education 112 and 113, or 110.

**230. Guidance Problems in Secondary Education (3) I, II, Summer**

The theory and practice of guidance emphasizing advanced mental hygiene concepts needed by teachers and counselors. Prerequisite: Education 110, or equivalent.



**231. Techniques of Pupil Appraisal (3) I, II or Summer**

Techniques of collecting, assembling, and interpreting data about individual pupils for guidance purposes. Field work required. Prerequisites: Psychology 104A and either Education 152 or 151, or equivalents.

**232. Problems in Vocational Guidance (3) I, Summer**

To prepare teachers for vocational guidance in the secondary schools. Includes occupational information, vocational aptitude measurement, and educational guidance. Prerequisite: Education 230, or equivalent.

**233. Guidance Counseling Techniques (3) I, II**

(Same course as Psychology 233)

Designed for school counselors. To stress the understandings and procedures necessary for effective interviewing. Prerequisite: Education 230, or equivalent. Not open to students with credit for Psychology 233.

**234. Administration of Pupil Personnel Services (3) I, Summer**

The organization and administration of school guidance services, including the use of community resources and a study of laws relating to children and child welfare. Prerequisite: Education 230 or equivalent.

**237. Research in Guidance Problems (1-3) Summer**

Individual study by graduate students who have demonstrated exceptional ability and a need for such work. Admission by permission of the Coordinator of Secondary Education and instructor.

**238. Field Work in School Guidance (3) II**

Application of the principles and procedures in testing, counseling, and related personnel work in the public school. Weekly seminar sessions with college and cooperating staff. Prerequisite: permission of instructor and 12 units in guidance and related areas.

**239. Workshop in Pupil Personnel Services (3) Summer**

Application of principles and procedures to specific situations for improvement of pupil personnel services. Individual problems emphasized. Prerequisite: teaching experience and permission of director of workshop.

*Elementary Education*

**240. Curriculum Construction and Evaluation in Elementary Education (3)**

**I, Summer**

Advanced study of the research in curriculum development, construction, and evaluation. Prerequisites: 12 units of work in elementary education and consent of the instructor.

**241. Problems in the Teaching of Arithmetic (3) Summer**

A study of research and practice in the methods of teaching and in the curriculum of elementary and junior high school arithmetic. Prerequisite: Education 130A or equivalent.

**242. Problems in the Teaching of Reading (3) Summer**

Advanced study of trends in reading instructions. Topics include developmental sequences in reading skills and abilities, reading in the content fields, individual differences, and interests. Students will develop individual projects or problems. Prerequisites: Education 130E and 137 or equivalents.

**243. Seminar in Social Studies in Elementary Education (3) Irregular**

Advanced study of problems in teaching social studies in the elementary school with emphasis on the study of the scientific research in the field. Prerequisite: permission of instructor.

**244. Seminar in Language Arts in Elementary Education (3) Irregular**

Advanced study of problems in teaching language arts in the elementary school, including spelling, literature and written and oral communication. Emphasis will be on the study of scientific research in the field. Prerequisite: permission of instructor.

**245. Seminar in Elementary Education (3) Irregular**

A study of the methodology of research with particular reference to the basic research in the psychology and teaching of the elementary school subjects. Prerequisites: 12 units in elementary education and permission of the instructor.

**246. Advanced Diagnosis in Reading (3) II, Summer**

Principles and techniques of individual and group diagnosis of reading difficulties. Experience in administration and interpretation of individual and group instruments of diagnosis. Prerequisites: Psychology 105B and Education 137, or permission of instructor.

*Secondary Education***250. Curricular Problems in Secondary Education (3) I, II, Summer**

Present status and development of the secondary school curriculum with emphasis upon curriculum construction and curriculum evaluation. Opportunities provided for study of problems submitted by students. Prerequisites: 12 units in secondary education and consent of the instructor.

**252. General Education in the Secondary School (3) Summer**

A course designed for teachers in service. A study of the function and implementation of general education in the secondary school. Prerequisites: 12 units in secondary education and permission of the instructor.

**254. Advanced Problems in Secondary School Instruction (3) II, Summer**

An analysis of the scientific research and philosophical principles in secondary school instruction. Prerequisites: teaching experience and permission of instructor.

**256. Recent Trends in Secondary Curriculum (3) Irregular**

Current practices and trends in secondary schools. Extensive individual work on related problems of interest to members of the class. Prerequisites: 12 units in secondary education and permission of the instructor.

**257. Workshop in Intercultural Education (4) Summer**

A cooperative workshop sponsored by the college and the San Diego City Schools to study trends in intercultural education in American schools, including units, curricular and instructional materials and techniques. Enrollment only by application to the Chairman of the Division of Education.

**258. Research in Curricular Problems (1-3) Irregular**

Individual study by graduate students who have demonstrated exceptional ability and a need for such work. Admission by permission of the Coordinator of Secondary Education and instructor.

*School Administration and Supervision***260. Federal, State, County and City School Organization and Administration (3) I, Summer**

A study of federal, state, county and city school organization and administration including the interrelationships of the four levels. Prerequisite: possession of a valid teaching credential.

**262. The Organization and Administration of Elementary Schools (3) I, Summer**

A study of the problems of personnel, local finance, curriculum, school plant and community relations of elementary schools. Field project required. Prerequisites: valid General Elementary Credential, teaching experience, Education 115, 240, 260, and 270 and admission to program of Administrative Studies.

**263. The Organization and Administration of Secondary Schools (3) I, Summer**

A study of the problems of personnel, local finance, curriculum, school plant, transportation and community relations of secondary schools. Field project required. Prerequisites: possession of a valid General Secondary Credential, teaching experience, Education 230, 250, 260 and 270 and admission to program of Administrative Studies.

**264. Elementary School Supervision (3) II, Summer**

Principles and practices of supervision and methods of evaluating instruction and the curriculum in elementary education. Field project required. Prerequisites: General Elementary Credential, teaching experience, Education 115, 240, 260 and 270 and admission to program of Administrative Studies.

**265. Secondary School Supervision (3) II, Summer**

Principles and practices of supervision, curriculum and teaching methods in secondary education. Field project required. Prerequisites: General Secondary Credential, teaching experience, Education 230, 250, 260 and 270 and admission to program of Administrative Studies.

**266. Field Work in Elementary School Administration and Supervision (3) II**

Study of the administration and supervision of an elementary school with the cooperation of a local school administrator and under the supervision of a college staff member. Field projects required. Prerequisites: admission to the program of Administrative Studies, completion concurrently of all other requirements for the Elementary Administration or Supervision Credential, permission of local school administrator and instructor.

**267. Field Work in Secondary School Administration and Supervision (3) II**

Study of the administration and supervision of a secondary school with the cooperation of a local school administrator and under the supervision of a college staff member. Field projects required. Prerequisites: admission to the program of Administrative Studies, completion concurrently of all other requirements for the Secondary Administration or Supervision Credential, and permission of local school administrator and instructor.

**268. Seminar in School Administration (3) Summer**

An intensive study of research on selected problems in the field of school administration. Provision will be made for individual work on special topics of interest to students. Prerequisites: permission of instructor.

**270. School Finance, Business Administration, and Law (3) II, Summer**

A study of public school finance at federal, state and local levels; an analysis of the business administration of schools and a study of school law as it applies to finance, administration and other aspects of school administration. Prerequisites: possession of a valid teaching credential or permission of instructor.

**271. Supervision of Student Teaching (2) II**

Study of selection, orientation, induction, counseling and evaluation of credential candidates and student teachers; and helping student teachers plan lessons, conduct classroom learning, analyze pupils' difficulties and achievement. Open to experienced teachers interested in the teacher education program.

**274A. Utilizing Audio-Visual Materials in the Classroom (3) I, Summer**

A critical analysis of research evaluating the use of visual, auditory, and other sensory materials in education. Prerequisite: Education 140, or equivalent.

**275. Administering the Use of Audio-Visual Materials (3) II, Summer**

Organizing, supervising, and coordinating audio-visual centers as an integral part of educational systems. Prerequisite: Education 140, or by permission of the instructor.

**278. Educational Leadership (3) I, Summer**

An analysis of the factors and practice in procedures of group and individual leadership in four areas: (a) the community; (b) the teaching staff; (c) the student personnel; (d) the professional field of educational administration and supervision. Prerequisite: valid teaching credential or permission of instructor.



*Procedures of Investigation***290A. Procedures of Investigation and Report (2) I, II, Summer**

Methods of investigation, data analysis, and reporting. Procedures for selecting topics and writing papers, projects, and thesis. Exercises in locating, selecting, analyzing, and summarizing professional literature. For majors in Education, concurrent registration in 290B is required.

**290B. Bibliography (1) I, II, Summer**

Exercises in the use of basic reference books, journals, and specialized bibliographies preparatory to a seminar project or to the writing of a thesis.

**295A-295B. Seminar (3-3) I, II, Summer**

An intensive study in selected areas of education culminating in a written project. Limited to students following Plan B for the Master of Arts degree in Education. Prerequisite: satisfactory score on the Graduate Comprehensive Examination in Education.

**298. Special Study (1-6) I, II, Summer**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3) I, II, Summer**

Guidance in the preparation of a project or thesis for the master's degree.

*Student Teaching and Internship***316A. Directed Teaching (3-7) I, II**

Systematic observation, participation and teaching under supervision in the campus elementary school, the affiliated elementary, junior high and senior high schools. During each semester of student teaching a weekly conference period is required as indicated in the time schedule. Prerequisites: Admission to teacher education; education program approved by the Coordinator of Elementary or Secondary Education. Any grade below C is unacceptable for a credential.

**316B. Directed Internship (2-6) I, II**

Extensive daily participation or teaching in public schools in preparation for a second credential when Directed Teaching has been taken for a prerequisite credential. Application should be made during the preceding semester. Preregistration required.

**ENGINEERING****IN THE DIVISION OF PHYSICAL SCIENCES**

The engineering program is designed to give the student a sound training in the fundamentals of engineering and at the same time provide the broad academic experiences which constitute a liberal education. The curriculum leads to the degree of bachelor of science in engineering.

The course of study embraces those fundamental subjects, common to the functions of engineering, which are recognized as being within the scope of a four-year program. The functions for which training is specifically provided are those of the production, operation, maintenance, service, sales, and management aspects of engineering application. Students who desire training in such fields as research, advanced design, and development, which usually requires graduate work, should plan to complete their academic work in a university where these fields of study are emphasized.

Characteristics of the San Diego State College engineering curriculum include an emphasis on engineering fundamentals, close integration of class and laboratory work, progressive development of skills in a strict sequence of phases, and a co-ordinated application in project form of these skills to the solution of an engineering problem in one of the several recognized fields.

**Major**

*A major in arts and sciences* is offered in *engineering* for the B.S. degree. Courses in the major are in addition to 45 units of general education courses. Nine units of chemistry, physics, and mathematics may be applied toward general education requirements. The pattern of general education requirements of the college is shown in this catalog under the heading "General Requirements for the Bachelor of Arts and Bachelor of Science Degrees." Specific requirements for the bachelor of science degree in engineering, including a minimum of 39 upper division units, are tabulated below. A minor is not required in the engineering program.

Students interested in working toward an M.S. degree in business administration with emphasis in engineering management should consult the section of this catalog under the heading "Business Administration," and should make appropriate arrangements to consult both engineering and business administration advisers early in their programs.

*A teaching major is not offered in engineering.*

**Minor**

*A minor in arts and sciences* is offered in engineering. The minor consists of 15 to 22 units in engineering, nine units of which must be in courses carrying upper division credit. The courses should follow a logical sequence approved by the departmental representative.

*A teaching minor is not offered in engineering.*

**ENGINEERING CURRICULUM**

The high school subjects which the student is expected to have completed in preparation for the engineering curriculum are listed in this catalog under "Admission and Registration." In addition to the qualifying examinations taken by all applicants for admission to the college in freshman standing, competency examinations in mathematics and mechanical drawing are specifically required of engineering students.

The tabulation below indicates the specific requirements and sequence of courses in engineering, and also shows the general pattern normally followed as regards general education courses and electives. While the tabulation presumes completion of the requirements for the degree in eight full-time semesters, it is not uncommon for students to elect to complete the program in more than four years by combining part-time employment with their academic work, either on a private basis or in one of the cooperative plans operated with local industries. Many required engineering courses are offered every semester, making for flexibility of such part-time cooperative plans.

All specifically required courses of the lower division must be completed before any required courses of the upper division are taken; and all required courses of the fifth and sixth semesters must be completed before the integrated work of the seventh and eighth semesters is begun.

### REQUIREMENTS FOR THE ENGINEERING PROGRAM

<i>Semester course is taken</i>	<i>General Education units</i>	<i>Phys. Sci. courses and units</i>	<i>Free elective units</i>	<i>Required units in engineering</i>	<i>Courses required in the Engineering Major</i>
1	6½	Math. 3A 3 Chem. 1A 5		1	Introduction (Engr. A)
2	2½	Math. 3B 3 Chem. 1B 5 Phys. 4A 4		3	Descriptive Geometry (Engr. 21)
3	5½	Math. 4A 3 Phys. 4B 4	2	3	Surveying I (Engr. 2) or Manufacturing Processes (Engr. 23)
4	3½	Math. 4B 3 Phys. 4C 4		6	Statics (Engr. 50) and Surveying II (Engr. 3) or Machine Drawing (Engr. 22)
5	3			13	Electrical Engineering (Engr. 100) Dynamics (Engr. 102) Thermodynamics (Engr. 108) Physical Metallurgy (Engr. 109)
6	3		2	12	Alternating Current Machinery and Electrical Controls (Engr. 101) Fluid Mechanics (Engr. 115) Strength of Materials (Engr. 116)
7	6		3	7	Senior Project (Engr. 198A) Engineering Applications (Engr. 190)
8	6		3	7	Senior Project (Engr. 198B) Engineering Applications (Engr. 190)
Total:	36 *(plus 9)	34	10	52	TOTAL UNITS FOR B. S. DEGREE: 132

\* 9 units of General Education may be applied from mathematics, chemistry, and physics.

#### Lower Division Courses

##### A. Introduction to Engineering (1) I, II

A survey of the fields of engineering, designed to familiarize the student with the nature, the requirements, the responsibilities, and the opportunities of the profession. Required of all freshman engineering students.

##### 1. Engineering Drawing (2) I, II

Freehand lettering, use and card of drafting equipment, shape description, freehand sketching, size description, sections, auxiliary views and revolutions, fastenings, detail and assembly drawing. Two three-hour laboratories per week. (Formerly Engineering 2.)

##### 2. Surveying I (3) I

Use, care, and adjustment of surveying equipment. Introduction to standard procedures and techniques of plane surveying. One lecture and two three-hour laboratories per week. Prerequisite: Sophomore standing. (Formerly Engineering 1A.)

##### 3. Surveying II (3) II

Computations and map making; land, topographic, and city surveying. Use of the plane table. One lecture and two three-hour laboratories per week. Prerequisite: Engineering 2. (Formerly Engineering 1B.)

##### 21. Descriptive Geometry (3) I

Fundamental principles of descriptive geometry and their application to engineering problems. Solutions of point, line and plane problems; curved lines and surfaces; intersections of surfaces. One lecture and two three-hour laboratories per week. Prerequisite: Engineering 1 or qualification by examination.



**22. Machine Drawing (3) I, II**

Standard drawing methods and procedures, complete sets of working drawings of simple machine parts, gears and cams; includes tolerance dimensioning, sectioning, threads and fasteners. Three three-hour laboratories per week. Prerequisites: Engineering 21, Mathematics 3A-3B.

**23. Manufacturing Processes (3) I, II**

Analysis of the various tools and processes utilized in modern manufacturing and fabrication operations. Field trips are made to local manufacturing organizations. Two lectures and one three-hour laboratory per week. Prerequisite: Sophomore standing. (Former course title was Materials of Engineering.)

**50. Statics (3) I, II**

Engineering applications of the principles of static equilibrium of force systems acting on rigid bodies. Centroids and moments of inertia, introduction to fluid statics, and dry friction. Prerequisites: Physics 4A, Mathematics 4A. (Formerly Engineering 102A.)

**65A-65B. Industrial Practice (2-2) I, II**

Supervised training in cooperating industrial organizations. First year of a three-year program providing the opportunity for selected students to correlate their formal college training with industrial experience at corresponding levels of responsibility and difficulty. Prerequisite: sophomore standing in Engineering. Selection based on personal interview following written application.

**Upper Division Courses****100. Elements of Electrical Engineering (4) I, II**

Theory and characteristics of electrical equipment emphasizing industrial applications, operation and control. Direct current circuit analysis; motors and generators; single phase and polyphase alternating current analysis. Three lectures and one three-hour laboratory per week. Prerequisite: Completion of lower division engineering requirements. (Formerly Engineering 100A and 101A.)

**101. Alternating Current Machinery and Electrical Controls (4) I, II**

Theory and characteristics of transformers, induction and synchronous machines; and electronic devices including amplifiers, rectifiers, photoelectric cells, timing circuits, and motor control. Industrial application emphasized. Three lectures and one three-hour laboratory per week. Prerequisite: Engineering 100. (Formerly Engineering 100B and 101B.)

**102. Dynamics (3) I, II**

Engineering applications of fundamental kinematics and kinetics to problems involving translation, rotation, and plane motion of particles and rigid bodies. Work and energy, impulse and momentum, periodic motion. Prerequisites: Completion of lower division engineering requirements. (Formerly Engineering 102B.)

**108. Thermodynamics (4) I, II**

The basic principles of thermodynamics; application of the first and second laws to gas and vapor cycles, air conditioning, and refrigeration. Three lectures and one three-hour laboratory per week. Prerequisite: Completion of lower division engineering requirements. (Formerly Engineering 127 and 129.)

**109. Physical Metallurgy (2) I, II**

Fundamentals of ferrous and nonferrous metallurgy in those aspects which affect physical qualities of metals. Effect of heat treatment, aging, and other processes on physical properties. One lecture and one three-hour laboratory per week. Prerequisite: Completion of lower division engineering requirements.

**115. Fluid Mechanics (4) I, II**

The statics and dynamics of incompressible and compressible fluids. Fluid measuring instruments, pipe flow, open channel flow, fluid machinery. Three lectures and one three-hour laboratory per week. Prerequisite: Engineering 108. (Formerly Engineering 105 and 106.)

**116. Strength of Materials (4) I, II**

Elastic properties and strength of engineering materials. Analysis of types of failures, stress analysis and deformation of simple structural and machine members; laboratory testing procedures and experimental confirmation of elastic theory. Three lectures and one three-hour laboratory per week. Prerequisites: Engineering 102 and 109. (Formerly Engineering 140 and 141.)

**165A-165B-165C-165D. Industrial Practice (2-2-2-2) I, II**

Supervised training in cooperative industrial organizations. Second and third years of a three-year program providing the opportunity for selected students to correlate their formal training with industrial experience at corresponding levels of responsibility and difficulty. Prerequisites: Engineering 65A and 65B.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**173. Production Systems and Control (3) I, II**  
(Same course as Business Administration 135)

Forecasting and estimating; authorization to manufacture; order, flow, block and load control; continuous versus intermittent production; use of drawings; tabulation of data; coordination of production with other factory departments. Not open to students with credit for Business Administration 135. Prerequisite: Business Administration 134.

**176. Methods and Standards (3) I, II**  
(Same course as Business Administration 136)

Work simplification through methods improvement; operations analysis; flow charts; calculation of time standards, work and speed analysis; new developments in job timing and motion economy study; time reduction curves; work standards. Not open to students with credit for Business Administration 136. Prerequisites: Business Administration 134 and Business Administration 135 or Engineering 173.

**177. Quality Control (3)**  
(Same course as Business Administration 139 or Mathematics 177)

Statistical techniques; tolerances and variants; standards; organization for inspection; inspection methods for raw materials, work in process, and finished products; control of inspection devices. Not open to students with credit for Business Administration 139 or Mathematics 177. Prerequisites: Business Administration 134 and Business Administration 135 or Engineering 173; and either Economics 140 or Mathematics 12.

**E-179. Manufacturing and Tooling Administration (3) Extension**  
(Same course as Business Administration E-142)

Production breakdown and relationship to manufacturing plan and tooling policy; planning, processing, and control required to activate program into production. Relationship of design engineering, tool project engineering, and tool manufacturing to production. Not open to students with credit for Business Administration E-142. Prerequisite: Engineering 173 or Business Administration 135; or permission of instructor.

**180. Principles of Engineering Economy (3) II**

Analysis of the costs of development and promotion, construction, operation, depreciation and depletion. Capital recovery, income, return and yield. Valuations and appraisals, cost analysis and financial analysis. Application to engineering problems. Prerequisite: senior standing.

**190. Engineering Applications (5-5) I, II**

Integration and application of basic engineering and physical science principles in electrical, mechanical, civil, industrial, and such other engineering fields as community needs reveal. The class will be divided into sections, each concerned primarily with one of these fields. Prerequisite: Satisfactory completion of all engineering programs through the junior year.

**190A-190B. Engineering Applications (Civil Engineering Field) (5-5) I, II**

Semester I: Applications of fundamental engineering science and techniques to the solution of a predetermined construction project. Field work, lines and grades, soil analysis, concrete inspection techniques, earthwork quantity calculations, and concrete formwork, together with utility supply and materials scheduling. Semester II: Erection methods and temporary falsework design, handbook methods of checking final designs for erection stresses, construction machinery and service, and utility installations such as water supply, electric power, and sewage disposal works. Lecture and laboratory.

**190C-190D. Engineering Applications (Electrical Engineering Field) (5-5) I, II**

Semester I: Applications of fundamental engineering science to electrical control systems, selsyns, servo-mechanisms, carrier communication, voltage-speed-torque regulating systems. Problems concerned with operation of electrical equipment under severe climatic and altitude variations. Semester II: Applications of fundamental engineering science to a comprehensive analysis of power systems. Further study of a-c machinery including application of symmetrical components. Electrical, mechanical and economic factors in transmission and distribution of electrical energy. Performance of generating and transmission equipment under normal and short-circuit conditions. Protective devices and metering. Lecture and laboratory.

**190E-190F. Engineering Applications (Mechanical Engineering Field) (5-5) I, II**

Semester I: Applications of fundamental engineering science to heat-power machinery such as internal combustion engines and steam-power equipment, air-conditioning and refrigeration machinery, and air compressors. Semester II: Applications of fundamental engineering principles to the practical design of machinery. Considerations of materials properties, stress analysis, mechanisms, kinematics, economics, production, and appearance are taken up as needed. Practical design methods utilizing empirical techniques are emphasized and explained in the individual design of a simple machine. Lecture and laboratory.

**198A-198B. Senior Project (2-2) I, II**

An individual investigation and report on the application of engineering fundamentals to some area of the production, operation, maintenance, service, sales, and management functions of engineering. Prerequisite: Satisfactory completion of all engineering programs through the junior year.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

NOTE.—In laboratory courses special emphasis is placed upon the preparation of neat, concise, complete and intelligent reports.

**ENGLISH****IN THE DIVISION OF HUMANITIES****Major**

A *major in arts and sciences* is offered in *English*. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: At least 12 units of work, in addition to English 1; at least six must be in a year course. Upper division requirements: A minimum of 24 upper division units in English and comparative literature, selected with the approval of a departmental representative; two years of lower division work in a foreign language or the equivalent reading knowledge of a language is strongly recommended. A minor is not required of students majoring in English.

Prospective majors of sophomore standing may, with the consent of the course instructor and subject to general college regulations (see section on Lower Division and Upper Division Courses), substitute six units of upper division electives for six units of lower division work, such upper division units to be selected from the following: English 101A, 116A, 116B, 118A, 118B, 119A, 119B, 126A, 126B, 143A, 143B.

Students of junior or senior standing may substitute for any deficiencies in lower division requirements in English (except English 1) an equivalent number of units of upper division courses selected from the following: English 101A, 116A, 116B, 118A, 118B, 119A, 119B, 120A, 120B, 126A, 126B, 143A, 143B, 151.

A *teaching major in English* is offered for the general secondary or junior high school credential. For specific information, refer to these credentials.



**Minor**

A *minor in arts and sciences* is offered in *English*. The minor consists of 15 to 22 units in English, nine units of which must be in courses carrying upper division credit.

A *teaching minor* is offered in English for the general secondary, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information refer to the outlines of requirements for these credentials.

**The Master's Degree**

The master of arts degree for teaching service is offered with a major in English. See section of this catalog entitled "The Master's Degree."

**Comparative Literature**

For courses in world literature, see Comparative Literature; these courses give credit toward the English major or minor or toward the minor in comparative literature.

**Credit in Course Sequences**

All elective year courses in the English Department may be begun in either semester, and either semester may be taken singly for credit.

**Lower Division Courses****A. English Fundamentals (3) I, II**

The elements of composition, including drill in grammar and usage; exercises in vocabulary building and in fundamental reading skills; theme writing. Credit in this course is equivalent to passing the English A examination and may be counted toward graduation as an elective but not to satisfy lower division English requirements in any curriculum.

**A-X. English for International Students (3) I**

A first course in English grammar and composition. To be taken by international or bilingual students as a substitute for English A. Students are assigned to this course upon the recommendation of the faculty adviser and the student's performance on the English A placement examination. This course may be counted toward graduation as an elective but does not satisfy lower division English requirements in any curriculum or in general education.

**R. Reading Laboratory (0) I, II**

A semitutorial service offered by the English Department to those wishing to improve reading ability, or secure individual help with study problems. Open to all students at any level of college work. Consult department chairman.

**W. Writing Laboratory (0) I, II**

A semitutorial service offered by the English Department to those wishing assistance in writing projects, either remedial or advanced. Open to students at any level of college work. Consult department chairman.

**\*1. Freshman Composition (3) I, II**

Study and practice in the expression of ideas and factual materials; principles of organization and of effective style, with emphasis on exposition. A required general education course in written communication. Prerequisite: satisfactory English A examination or credit in English A.

**\*1-X. English for International Students (3) I**

A first course in English grammar and composition. To be taken by international or bilingual students as a substitute for English 1. Students are assigned to this course upon the recommendation of the faculty adviser and the student's performance on the English A placement examination. As a substitute for English 1, this course will meet the general education requirement for written communication.

**\*2. Freshman Literature: Imaginative (3) I, II**

Training in reading literary materials with insight and vividness. (Formerly English 2A.) A general education course in literature, philosophy, and the arts.

**\*3. Contemporary Thought (3) I, II**

The improvement of comprehension through reflecting and reporting on current articles and books of nonfiction. A general education course in literature, philosophy, and the arts.

**\*10. Recreational Reading (1) I, II**

Development of personal tastes for leisure-time reading through lectures and written reports. May be taken a second time with new materials. A general education course in literature, philosophy, and the arts.

**20. Latin and Greek Word Derivation (3) I, II**  
(Same course as General Language 20)

A general and elementary course in philology. Study of Latin and Greek roots of most frequent occurrence in English, and of the English words derived from them. No prerequisite. Not open to students with credit for General Language 20.

**\*50A-50B. Masterpieces of American Literature (3-3) Year, I**

Semester I: Major American writers from the beginning to 1860. Semester II: American literature from 1860 to the present. A general education course in literature, philosophy, and the arts.

**\*52A-52B. Masterpieces of World Literature (3-3) Year, I**  
(Same course as Comparative Literature 52A-52B)

A chronological survey from Homer to modern times. The first semester stresses the classical epic and tragedy. The second semester stresses more recent literature, including prose fiction, the drama, and the essay. A general education course in literature, philosophy, and the arts. Not open to students with credit for Comparative Literature 52A-52B.

**\*56A-56B. Survey of English Literature (3-3) Year, I**

The study of some important works of English literature from the Anglo-Saxon period through the Victorian age, with emphasis upon the literary history of each period. A general education course in literature, philosophy, and the arts. Prerequisite: English 2 or 3, or consent of instructor.

**\*60A-60B. Literature and Personality (3-3) Year, I**

The close study of a limited number of the great creators of literature. The goal of the course is to derive, from markedly different specific works, orderly and generalized methods for the interpretation of great literature. A general education course in literature, philosophy, and the arts.

**\*61. Sophomore Composition (3) I**

Practical writing beyond the freshman level. Prerequisite: English 1 or equivalent. A general education course in written communication.

**\*62. Directed Writing (3) II**

Guidance and extensive practice in effective creative writing, particularly description and narration. A general education course in written communication.

**Upper Division Courses****\*101A-101B. Modern Continental Fiction (3-3) Year, I**  
(Same course as Comparative Literature 101A-101B)  
(Offered in 1957-58 and alternate years)

Study of selected works by novelists and short story writers of continental Europe from Tolstoy to those of today. Not open to students with credit for Comparative Literature 101A-101B. A general education course in literature, philosophy, and the arts.

**\*106. Creative Writing (3) I (Same course as Journalism 106)**

A writing workshop in which the students are given opportunity to criticize each other's work. Emphasis on narrative and description, but freedom to pursue whatever writing forms may interest the student most. May be taken a second time with new material. A general education course in written communication.

**\*110. Recreational Reading (1) I, II**

An advanced course in the group reading of modern drama, poetry and fiction. A general education course in literature, philosophy, and the arts.

**113. American English (3) I**

The development of American English; regional and cultural differences in pronunciation, grammar, and vocabulary.

**\*115. The Bible as Literature (3) I**

(Same course as Comparative Literature 115)

A study of the narrative, poetry, and prophecy of the King James version of the Bible. Readings, reports, lectures, and discussions. A general education course in literature, philosophy, and the arts. Not open to students with credit for Comparative Literature 115.

**116A-116B. The Age of Elizabeth (3-3) Year, I**

Semester I: Poetry and prose, exclusive of drama. Semester II: The drama to 1642, excluding Shakespeare.

**\*117A-117B. Shakespeare (3-3) Year, I**

The first semester gives special emphasis to the histories and comedies; the second, to tragedy and the dramatic romances. A general education course in literature, philosophy, and the arts.

**118A-118B. Eighteenth Century English Literature (3-3) Year, I**

The first semester emphasizes the social satire of Swift, Pope, Addison, Steele, Dryden, Gay, Prior; and also the first stirrings of the romantic revolt in a number of important poems and prose works. The second semester is devoted to Johnson and Boswell and their circle and to a significant romantic literature antedating the romantic outburst.

**\*119A. English Romantic Poetry (3) I**

The culmination of the romantic movement in the poetry of Wordsworth, Coleridge, Byron, Shelley, and Keats, in relation to the thought of the revolutionary period. A general education course in literature, philosophy, and the arts.

**\*119B. Victorian Poetry (3) II**

Tennyson and Browning with their contemporaries and successors, relating English poetry to Nineteenth Century life and thought. A general education course in literature, philosophy, and the arts.

**120A. The Seventeenth Century: Milton (3) II (Alternate years)**

The poetry and major prose works of Milton, with stress on the development of his art and mind; the political and religious background and the events in which Milton participated.

**120B. The Seventeenth Century: Milton's Contemporaries (3) II**

(Alternate years)

The Seventeenth Century poets and prose writers, excluding Milton; the Metaphysical and Cavalier poets; the beginnings of the essay and biography.

**126A. Romantic and Victorian Prose (3) I**

Romantic and mid-Victorian prose writers, including Coleridge, Hazlitt, Lamb, DeQuincey, Carlyle, Landor, Macaulay, and Mill, related to the literary, political, and social movements of the period.

**\*126B. Late Nineteenth Century British Prose (3) II**

The essays of Arnold, Thomas Huxley, Newman, Pater, Ruskin, and Stevenson. Study of scientific, aesthetic, and ethical backgrounds. A general education course in literature, philosophy, and the arts.



**\*129. Contemporary British Literature (3) I**

Selected prose and poetry of England and Ireland in the present century, especially after World War I: Yeats, Joyce, Eliot, D. H. Lawrence, Virginia Woolf and some representative modern novelists, the Oxford poets, Dylan Thomas and current movements. A general education course in literature, philosophy, and the arts.

**\*131. American Literature: 1820-1860 (3) I**

The study of the important romantic writers, with emphasis on the New England group. A general education course in literature, philosophy, and the arts.

**\*132. The Frontier and American Literature (3) I, II**

The influence of the frontier upon American literature studied through various regions and movements. Examinations of source materials, biographies, and representative writers. A general education course in literature, philosophy, and the arts.

**\*133. American Literature: 1860-1910 (3) II**

The rise of realism in American literature. Influences, foreign and native, which promoted the movement. Definition of realism. The literary creed of the realists. The romantic attack and the realist defense. A general education course in literature, philosophy, and the arts.

**\*134. American Literature: 1910 to the Present (3) I, II**

Ideas and forms in representative poetry and prose. A general education course in literature, philosophy, and the arts.

**143A-143B. The English Novel (3-3) Year, I**

The history of the English novel from its beginnings to the present century. Emphasis in the first semester will be on the Eighteenth Century and in the second semester on the Nineteenth Century.

**\*149. The Study of Poetry (3) I**

A course proceeding from simpler to more complex poetic productions. Emphasis on current direction in poetry, and on problems of form. The inclination to write poetry is encouraged. A general education course in literature, philosophy, and the arts.

**151. Chaucer (3) I**

A study of Chaucer's works, with emphasis on "The Canterbury Tales" and "Troilus and Criseyde."

**\*152A-152B. World Drama (3-3) Year, I**

(Same course as Comparative Literature 152A-152B)

Study of selected tragedies and comedies from Asiatic, European, English, and American literature, with emphasis upon the human problems depicted therein and upon the timelessness of certain themes, such as those of Electra and Medea. Lectures, discussions, and reports on readings. A general education course in literature, philosophy, and the arts. Not open to students with credit for Comparative Literature 152A-152B.

**162. Magazine Fiction (3) II (Same course as Journalism 162)**

Coaching in constructing and writing short stories for commercial publications. Admission by consent of the instructor. Not open to students with credit for Journalism 162.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**189. Studies in American Folklore (3) II**

American folk songs, tales, legends, superstitions, proverbs, and speech, with particular emphasis on one of these.

**191. Advanced Composition (3) I**

A course designed for prospective teachers of secondary school English. This is not a methods course, but a content course in grammar, composition, and journalism. Required of all teaching majors in English; open to other students as an elective.

**192. The English Language (3) I, II**

The study of the history of the English language, of its words and structure, of the changes in inflections, pronunciation, vocabulary, and meaning, and of its use as an instrument of communication and human living. Open only to seniors and graduate students.

**195. Literary Criticism (3) I**

A historical survey of the principles and practices of literary criticism from Greek times to the Nineteenth Century. Readings in the works of Aristotle, Horace, Longinus, Sidney, Boileau, Dryden, Lessing, Sainte-Beuve, Coleridge, and Arnold. Open only to senior and graduate students.

**198. Comprehensive Reading and Survey (3) II**

A study of major movements in English literature through a review of important writers and key works. Individual programs of readings to fill the needs of each student. Open only to students with nine upper division units in English.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****200. Seminar (2) I, II**

An intensive study of some phase of literature. The course may be repeated for each subject. (a) The critical study of a major author (such as Shakespeare, Dickens, Mark Twain); (b) the study of a cultural period through its literature (Renaissance, Enlightenment, Romantic Revolution, etc.); (c) the study of a literary problem (such as Regionalism in American Literature, or European influences in American Literature); (d) the study of a literary type (Personal Essay, Epic, Tragedy, etc.). May be repeated with new materials for additional credit.

**290. Bibliography (2) II**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff: to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree.

**FRENCH****IN THE DIVISION OF HUMANITIES****Major**

A *major in arts and sciences* is offered in *French* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: in the major, French 1, 2, 3, 4, 5, 6; in other foreign languages, German 1, 2, or Spanish 1, 2, or Latin 1, 2. Six units in elementary German or Spanish may also be applied toward general education requirements. Recommended: History 4A-4B. Upper division requirements: a minimum of 24 upper division units, at least 21 units of which must be in French, including French 198. The remaining three units may be selected from French 115, 116; Geography 125; History 121A-121B, 131A-131B, 141, 142, 143A-143B, 144A-144B; or Comparative Literature 101A, 140A-140B, 152A-152B; in consultation with the chairman of the department.

A person majoring in French must have a minor to be decided upon in consultation with his major adviser.

A *major in arts and sciences* is offered in *Romance Languages*. For specific information on this major, refer to the section on Romance Languages.

A *teaching major* is offered in *French* or in *Romance Languages* for the junior high school and general secondary credentials. For specific information, refer to these credentials.

#### Minor

A *minor in arts and sciences* is offered in *French*. The minor consists of 15 to 22 units in French, six units of which must be in courses carrying upper division credit.

A *teaching minor* is offered in French for the general secondary, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to these credentials.

#### The Master's Degree

The master of arts degree for teaching service is offered with a concentration in French under the major of foreign language. See section of this catalog entitled "The Master's Degree."

#### Lower Division Courses

##### \*1. Elementary (3) I, II

Pronunciation, oral practice, readings on French culture and civilization, minimum essentials of grammar. A general education course in foreign language.

##### \*2. Elementary (3) I, II

Continuation of French 1. A general education course in foreign language. Prerequisite: French 1 or one year of high school French.

##### \*3. Intermediate (3) I

Reading in French of cultural material, short stories, novels or plays; oral practice; outside reading with oral and written reports. A general education course in foreign language. Prerequisite: French 2 or two years of high school French.

##### \*4. Intermediate (3) II

Continuation of French 3. A general education course in foreign language. Prerequisite: French 3 or three years of high school French.

##### 5. Intermediate (2) I

A practical application of the fundamental principles of grammar by means of oral and written work based on French texts. A general education course in foreign language. Prerequisite: French 2 or two years of high school French.

##### 6. Intermediate (2) II

Continuation of French 5. Prerequisite: French 5 or three years of high school French.

##### 8A-8B. Scientific Reading (3-3) I

Reading taken from the fields of chemistry, physics, medicine, zoology, biology, etc. Outside readings of books and periodicals, with written reports. Prerequisite: French 2 with a grade of C or two years of high school French.

##### 10. Conversation (2) I

Practice in the spoken language; practical vocabulary, conversation on assigned topics; simple dialogues and plays. Prerequisite: French 2 or two years of high school French.

##### 11. Conversation (2) II

Continuation of French 10. Prerequisite: French 10 or French 3, or three years of high school French.

##### \*15. French Civilization (2) I

The major currents and characteristics of French culture, as expressed through the centuries in literature, art, philosophy, music and science. Conducted in English. No prerequisite. A general education course in foreign language.

##### \*16. French Civilization (2) II

Continuation of French 15. No prerequisite. A general education course in foreign language.



**Upper Division Courses****101A-101B. Conversation and Composition (3-3) Year, I**

Translation into French from moderately difficult English prose. Outside reading of modern French prose, with written reports in French monthly. Readings and oral discussions in French of various facets of French life and culture. Prerequisite: French 4 and 6, or their equivalent, with a grade of C, or permission of instructor.

**105A-105B. Modern French Drama (3-3) Year, I (Offered 1957-58)**

Plays of Victor Hugo, de Vigny, de Musset, Scribe, Augier, Dumas fils, Pailleron, Brieux, Hervieu, Maeterlinck, Rostand, and others read and discussed as to subject matter and technique. Outside reading and reports. Prerequisite: French 4 and 6, or their equivalent, with a grade of C.

**107A-107B. Eighteenth Century Literature (3-3) Year, I**

The works of Montesquieu, Voltaire, Rousseau, the Encyclopédistes, as well as the theatre and novel of the period. Outside reading and reports. Prerequisite: French 4 and 6, or their equivalent, with a grade of C.

**110A-110B. Modern French Novel (3-3) Year, I (Offered 1959-60)**

The French novel from Victor Hugo to the present day, including such authors as: Hugo, Dumas, Stendahl, Balzac, Flaubert, Loti, Anatole France, Bourget, Bordeaux, Bazin, Barrès, Romain Rolland, A. Gide, Marcel Proust, and others. Class reading, outside reading, and reports. Prerequisite: French 4 and 6, or their equivalent, with a grade of C.

**111A-111B. Seventeenth Century Dramatic Literature (3-3) Year, I (Offered 1958-59)**

Reading in class of plays of Molière, Corneille, and Racine. Outside readings and lectures on the background of the seventeenth century in France. Prerequisite: French 4 and 6, or their equivalent, with a grade of C.

**\*115. French Civilization (2) I**

An advanced course in French of the past and present, with emphasis on the arts, philosophy, and literature. Lectures, class discussions, outside readings, written reports on individual topics. Conducted in English. A general education course in foreign language. Prerequisite: sophomore standing.

**\*116. French Civilization (2) II**

Continuation of French 115. Prerequisite: sophomore standing. A general education course in foreign language.

**150-S. Advanced Phonetics and Diction (3) Summer (Offered 1957)**

For students and teachers of French wishing to perfect their pronunciation and diction. Correct formation of French sounds in isolation and combination. Class exercises, individual drill, and use of special discs and tape recording. Prerequisite: two years of college French or its equivalent.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**198. Comprehensive Reading and Survey Course (3) II**

Designed to fill up the gaps in the reading done in courses. Class meeting once a week for guidance, reports, and quizzes. Required of all seniors majoring in French.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****214. Contemporary French Literature (2) I**

An intensive study of the current movements and techniques in the novel, poetry, and theatre in France from 1900 to the present day. Class discussion, outside readings, written reports. Prerequisite: nine units of upper division French and graduate status.

**220. Explication de Textes (2) II**

An introduction to the analytical French approach to the detailed study of literature. Demonstrations by instructor and students. This course aims to give teachers of French a greater mastery of French language and literature. Prerequisite: nine units of upper division French and graduate status.

**290. Bibliography (1) See Romance Languages****298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Master's degree candidates in French are expected to substitute a comprehensive examination for the thesis. In unusual cases a student may write a thesis with the permission of the department.

## GENERAL CULTURE

## IN THE DIVISION OF HUMANITIES

Major or minor work is not offered in general culture courses. These courses are carried as part of the offerings of the Foreign Languages Department. They are conducted in English and are open to all students. A knowledge of foreign language is not required. All courses designated with an asterisk (\*) are general education courses in the area of foreign languages.

## Lower Division Courses

**French \*15. French Civilization (2) I**

The major currents and characteristics of French culture, as expressed through the centuries in literature, art, philosophy, music and science. Conducted in English. No prerequisite.

**French \*16. French Civilization (2) II**

Continuation of French 15. No prerequisite.

**German \*15. German Civilization (2) I**

The major currents and characteristics of German culture, as expressed through the centuries in literature, art, philosophy, music and science. Conducted in English. No prerequisite.

**German \*16. German Civilization (2) II**

Continuation of German 15. No prerequisite.

**Spanish \*15. Spanish Civilization (2) I**

The major currents and characteristics of Hispanic life and culture, as expressed through the centuries in literature, art, philosophy, music and science. Conducted in English. No prerequisite.

**Spanish \*16. Spanish Civilization (2) II**

Continuation of Spanish 15 with emphasis on Spanish America. No prerequisite.

**General Culture 17-S. European Civilization (3) Summer**

A study of the civilization of Europe through a conducted travel tour.

## Upper Division Courses

**French \*115. French Civilization (2) I**

An advanced course in French culture of the past and present, with emphasis on the arts, philosophy, and literature. Lectures, class discussions, outside readings, written reports on individual topics. Conducted in English. Prerequisite: sophomore standing.

**French \*116. French Civilization (2) II**

Continuation of French 115. Prerequisite: sophomore standing.

**German \*115. German Civilization (2) I**

An advanced course in German culture of the past and present, with emphasis on the arts, philosophy, and literature. Lectures, class discussions, outside readings, written reports on individual topics. Conducted in English. Prerequisite: sophomore standing.

**German \*116. German Civilization (2) II**

Continuation of German 115. Prerequisite: sophomore standing.

**Spanish \*115. Spanish Civilization (2) I**

An advanced course in Hispanic culture of the past and present, with emphasis on the arts, philosophy, and literature. Lectures, class discussions, outside readings, written reports on individual topics. Conducted in English. Prerequisite: sophomore standing.

**Spanish \*116. Spanish Civilization (2) II**

Continuation of Spanish 115 with emphasis on Spanish America. Prerequisite: sophomore standing.

**General Culture 117-S. European Civilization (3) Summer**

A study of the civilization of Europe through a conducted travel tour. Prerequisite: sophomore standing.

**GENERAL LANGUAGE****IN THE DIVISION OF HUMANITIES**

Major or minor work is not offered in general language.

**Lower Division Courses****General Language 20. Latin and Greek Word Derivation (3) I, II**  
(Same course as English 20)

A general and elementary course in philology. A study of Latin and Greek roots of most frequent occurrence in English, and of the English words derived from them. No prerequisite. Not open to students with credit for English 20.

**General Language 30. Pronunciation of French, Italian and German (1-3) II**

A course designed especially to meet the needs of singers, radio announcers, etc. No prerequisite. This course may be taken for one, two or three units of credit depending on the individual student's need.

**GEOGRAPHY****IN THE DIVISION OF SOCIAL SCIENCES****Major**

A *major in arts and sciences* is offered in *geography* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Geography 1 and 2; and Geology 1A-1B (which may be used as part of a geology minor if desired). Recommended: a reading knowledge of German, French, or Spanish. Upper division requirements: A minimum of 24 upper division units in geography, to include Geography 180 and 181. Six units in related fields may be accepted as part of the major with approval of the chairman of the geography department. A minor is not required, but is recommended.

A *teaching major* is not offered in geography; however, courses in geography may be used as part of the *social science major* for the junior high school credential or the general secondary credential. For specific information, refer to these credentials.

**Minor**

A *minor in arts and sciences* is offered in *geography*. The minor consists of 15 to 22 units in geography, six units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in geography; however, it may be used as a part of the *social science minor* for the general secondary, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to these credentials.



**The Master's Degree**

The master of arts degree for teaching service is offered with a concentration in geography under the major of social science. See section of this catalog entitled "The Master's Degree."

**Lower Division Courses****\*1. Introduction to Geography: Physical Elements (3) I, II**

The nature of maps, weather and climates of the world; natural vegetation; land forms and their associated soils, with reference to their climatic relationships; the seas and their coasts. One field trip. May count for physical science general education credit provided Geography 3 has not been used to fulfill the same requirement.

**\*2. Introduction to Geography: Cultural Regions (3) I, II**

The regional differentiation of the world by human activity; areal bases of economy and nationality. A social science course in general education. Not open to students with credit for Geography 12A or 12B. Prerequisite: Geography 1.

**\*3. Weather (3) I**

Elements of weather, air masses, storms, and their geographic distribution; practical instruction in the use of weather instruments, maps, and records. May count for physical science general education credit provided Geography 1 has not been used to fulfill the same requirement.

**\*12A-12B. Culture Worlds (3-3) Year, I**

A study of the evolution, distinguishing cultural characteristics and physical features of the major culture regions of the world, with emphasis on the role man has played in the alteration of the natural landscape. A general education course in social science. Not open to students with credit for Geography 2.

**Upper Division Courses****100. Climatology (3) II**

A survey of the principal classifications of climates of the world; regional characteristics of climate; relations to soils, vegetation, and human activities. Prerequisite: Geography 1 or 3 or consent of instructor. (Formerly Geography 115.)

**120. California (3) I, II**

The physiographic regions of California and the cultural landscapes developed by the successive cultural groups. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography 112.)

**121. United States (3) I, II**

The natural regions of the United States, their formation and economic and historical development. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography of North America.)

**122. Canada and Alaska (3) I**

The physical and historical bases of Canadian and Alaskan regionalism; the economic and strategic importance of these two areas. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography of North America.)

**123. Middle America (3) I**

The land and peoples of Mexico, Central America, and the islands of the Caribbean; a survey of the resources, economies, and trade of the region. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography 120.)

**124. South America (3) II**

A study of the physical regions and human geography of South America, including a review of the history of colonization and the exploitation of resources. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography 119.)

**125. Mediterranean Area (3) II**

A study of the cultural development of the countries of Southern Europe, Western Asia, and North Africa in relation to physical background and resources. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography 118.)

**126. Northern Europe (3) II**

A study of the cultural development of the countries of northern and eastern Europe in relation to physical background and historical evolution. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography 117.)

**127. Soviet Union (3) I**

Analysis of natural resources, agricultural production, industrial growth, and transportation. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography of Northern and Eastern Europe.)

**128. Southern and Eastern Asia (3) I**

The cultural regions of southern and eastern Asia, their physical environment and historical development. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography 124.)

**129. Oceania (3) II**

The physical geography, peoples, economies, and trade of Oceania, Australia, and New Zealand. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography 125.)

**150. World Political Geography (3) I, II**

A study of geography as it relates to the strength of nations and international relations. Not open for credit to AFROTC contract students.

**\*151. Economic Geography: Primary Production (3) I**

The geography of agricultural production and the extractive industries in relation to world commerce. A general education course in social science. Prerequisite: Geography 1 or 12A-12B or consent of instructor.

**\*152. Industrial Geography (3) II**

Principles of industrial location, with emphasis on the distribution of the world's major manufacturing regions; transportation and world trade. A general education course in social science. Prerequisite: Geography 1 or 12A-12B or consent of instructor.

**\*153. Conservation of Natural Resources (3) I**

Nature and extent of mineral, soil, water, forest, and wild-life resources and their conservation, with particular emphasis on the United States against a general background of world resources. Conservation philosophies and practices and their geographic bases. A general education course in social science. Prerequisite: Geography 1 or consent of instructor. (Formerly Geography 145.)

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**180. Field Geography (3) II**

Directed field work in physical and cultural geography. May be repeated for a total of six units. Prerequisites: Senior or graduate standing and the completion of at least 12 units in geography, including Geography 1 and 2 or 12A-12B and consent of instructor. (Formerly Geography 135.)

**181. Maps and Graphic Methods (3) I**

The use and evaluation of maps and graphic aids in the teaching of geography and other fields in the social sciences. Practice in the use of lettering guides and in reproducing maps and graphs.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisites: At least 15 units of A or B work in geography and consent of instructor.

**Graduate Courses****200A-200B. Seminar (2-2) Year, I****290. Bibliography (1)**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: Permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree.

**GEOLOGY****IN THE DIVISION OF PHYSICAL SCIENCES****Major**

A *major in arts and sciences* is offered in *geology* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Geology 1A or Geology 2 and 3, Geology 1B, Geology 21, Chemistry 1A-1B, Engineering 2, and Engineering 1 (if mechanical drawing was not completed in high school), Mathematics 3A, and Physics 2A-2B or Physics 4A-4B-4C. (Nine units in physical science may be counted toward general education requirements in natural science.) Upper division requirements: 24 units of geology including Geology 100 and eight units of Geology 108. A minor is not required.

A *teaching major* is not offered in geology; however, courses in this field may be used as part of the *general science major* for the junior high school credential. For specific information, refer to this credential.

**Minor**

A *minor in arts and sciences* is offered in *geology*. The minor consists of 15 to 22 units in geology, six units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in geology; however, courses in this field may be used as part of the *general science minor* for the special secondary, the general elementary, and the kindergarten-primary credentials and for the *physical science and general science minor* for the general secondary credential. For specific information, refer to these credentials.

**Lower Division Courses****1A. Physical (4) I**

The composition, origin, and distribution of earth materials, and their modification through mechanical and chemical process of change. Three lectures and one three-hour laboratory period weekly with related field study during the semester. (Not open to students who have had Geology 2.)

**1B. Historical (4) II**

Theories of earth origin, and the evolutionary history of the earth as traced through rock and fossil records. Consideration of the Paleontologic Sequence. Three lectures and one three-hour laboratory period weekly, with arrangement for field study and conference during the semester. Prerequisite: Geology 1A or equivalent.

**\*2. General Geology (3) I, II**

Earth materials and processes, the development of land forms, and a brief consideration of the history of the earth. Open to all students except those with previous credit in geology. No prerequisites. A physical science general education course in the area of the natural sciences.

**\*3. General Geology Laboratory (1) I, II**

Recognition of common earth materials with experience in both field and map relationships. Designed to accompany Geology 2, but entirely separate and complete in itself. One three-hour laboratory period weekly. Open to all students except those with previous laboratory credit in geology. No prerequisites. A physical science general education course meeting the laboratory requirement in the area of the natural sciences.



**\*4. Physiography of United States (3) II**

Geologic history and present features of the main physiographic provinces of United States. A physical science course in general education in the area of the natural sciences. Prerequisite: Geology 1A or 2.

**21. Elementary Mineralogy (4) I**

Practice in the determination of common minerals and rocks, their geologic environment, utilization and economic significance. Two lectures and two three-hour laboratory periods weekly. No prerequisite.

**22. Optical Mineralogy (3) II**

Continuation of Geology 21 with application of optical and other techniques for mineral identification with emphasis on the silicate minerals. Two lectures and one three-hour laboratory per week. Prerequisite: Geology 21.

**Upper Division Courses****100. Structural Geology (3) I**

The evolution and description of the structural and topographical features of the earth. Faulting, folding, and orogenic forces with practical illustrations from the North American Continent and California geologic conditions. Lectures, discussions, and occasional field trips. Prerequisite: Geology 1A-1B or equivalent.

**101. Museum Work (1-2) I, II**

Selection and preparation of materials for the college museum collections. Emphasis upon creation of self-instructive displays for use on the elementary and secondary as well as the collegiate level. Prerequisite: Geology 1A-1B, and consent of the instructor. May be repeated for maximum not to exceed six units where quality of work and student capacity justify.

**102. Geology of California (3) II**

Directed reading and group discussion of California geologic literature. Designed to acquaint the student not only with the important structural and geomorphic units of the State but with the variety of important source materials of geologic literature as well. Use of bibliographies, state and federal surveys, research publications, etc. Prerequisite: Geology 1A-1B, and consent of the instructor.

**106. Paleontology (3) I (Offered 1957-58 and alternate years)**

Methods of paleontology and principles governing the evolution and distribution of fossil plants and animals. Two lectures and one three-hour laboratory per week. Prerequisite: Geology 1B.

**108. Field Geology (1 to 4) I, II**

Techniques of geologic mapping. Preparation of a geologic map and report of a field area. Work primarily on week ends. Prerequisites: Geology 100 and consent of the instructor. May be repeated to a total of eight units.

**122. Petrology (3) II (Offered 1956-57 and alternate years)**

The origin, occurrence, identification, and classification of rocks and minerals with emphasis on hand specimen characteristics. Two lectures and one three-hour laboratory per week. Prerequisites: Geology 1A or Geology 2 and 3, and Geology 21.

**166. Honors Course (Credit to be arranged) I, II**

Special work in any of several phases of geologic science for students of demonstrated ability. Refer to the Honors Program.

**199. Special Study (1-6) I, II**

Individual study in field, library, laboratory, or museum work. Six units maximum credit. Prerequisite: permission of instructor.

## GERMAN

## IN THE DIVISION OF HUMANITIES

Major work is not offered in German.

A minor in arts and sciences is offered in *German*. The minor consists of 15 to 22 units in German, six units of which must be in courses carrying upper division credit.

## Lower Division Courses

**\*1. Elementary (3) I, II**

Pronunciation, oral practice, readings on German culture and civilization, minimum essentials of grammar. A general education course in foreign language.

**\*2. Elementary (3) I, II**

Continuation of German 1. A general education course in foreign language. Prerequisite: German 1 or one year of high school German.

**\*3. Intermediate (3) I**

Reading in German of cultural material, short stories, novels or plays; oral practice; outside reading with oral and written reports. A general education course in foreign language. Prerequisite: German 2 or two years of high school German.

**\*4. Intermediate (3) II**

Continuation of German 3. A general education course in foreign language. Prerequisite: German 3 or three years of high school German.

**5. Intermediate (2) I**

A practical application of the fundamental principles of grammar by means of oral and written work based on German texts. Prerequisite: German 2 or two years of high school German.

**6. Intermediate (2) II**

Continuation of German 5. Prerequisite: German 5 or three years of high school German.

**8A-8B. Scientific Reading (3-3) I**

First semester, readings in scientific reader on chemistry, physics, etc.; occasional written reports on scientific subjects read outside of class; sight reading. Second semester, readings in special scientific or technical works; weekly written reports required sight reading. Prerequisite for 8A: German 2 with a grade of C or two years of high school German; for 8B: German 8A or German 3, with a grade of C, or three years of high school German.

**10. Conversation (2) I**

Practice in the spoken language; practical vocabulary; conversation on assigned topics; simple dialogues and plays. Prerequisite: German 2 or two years of high school German.

**11. Conversation (2) II**

Continuation of German 10. Prerequisite: German 10, or German 3, or three years of high school German.

**\*15. German Civilization (2) I**

The major currents and characteristics of German culture, as expressed through the centuries in literature, art, philosophy, music and science. Conducted in English. No prerequisite. A general education course in the area of foreign languages.

**\*16. German Civilization (2) II**

Continuation of German 15. No prerequisite. A general education course in the area of foreign languages.

**Upper Division Courses****101A-101B. Advanced Conversation and Composition (3-3) Year, I**  
(Offered 1958-59)

Translation into German of moderately difficult English prose. Free composition in German, written and oral. Outside reading of modern German plays and prose, discussions in German. Oral and written practice in conversational German. Prerequisite: German 4 and 6, or their equivalent, with a grade of C, or permission of instructor.

**\*115. German Civilization (2) I**

An advanced course in German culture of the past and present, with emphasis on the arts, philosophy, and literature. Lectures, class discussions, outside readings, written reports on individual topics. Conducted in English. Prerequisite: sophomore standing. A general education course in the area of foreign languages.

**\*116. German Civilization (2) II**

Continuation of German 115. A general education course in the area of foreign languages.

**142. The Golden Age of German Literature (3) I, II (Offered 1957-58)**  
(Same course as Comparative Literature 142)

Masterpieces of German literature from the Eighteenth and early Nineteenth Centuries. Lectures in English, readings and written reports in German. Not open to students with credit for Comparative Literature 142.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**HEALTH EDUCATION****IN THE DIVISION OF PHYSICAL EDUCATION, HEALTH EDUCATION AND RECREATION****Major**

A *major in arts and sciences* is offered in *health education* for the B.S. degree. Courses in the major are in addition to 45 units in general education courses, except that nine units in lower division natural science may be applied to general education requirements. Lower division: Health Education 65, 90; Zoology 8A-8B; Chemistry 2A-2B; Home Economics 4A. Upper division: 36 upper division units to include Health Education 145, 151, 152, 153, 190, 191; Bacteriology 101; Education 112 (or equivalent); Physical Education 161; Sociology 135; and 7 to 9 units to be selected in consultation with the departmental adviser. A minor is not required for the B.S. degree.

A *teaching major in health education* is offered for the general secondary credential. For a statement of requirements, refer to the general secondary credential.

**Minor**

A *minor in arts and sciences* is offered in *health education*. The minor consists of 15 to 22 units in health education, nine units of which must be in courses carrying upper division credit. Courses will be determined in consultation between student and departmental representative.

A *teaching minor in health education* is offered for the general secondary and the special secondary credentials. For a statement of requirements, refer to the credential.

**The Master's Degree**

The master of arts degree for teaching service is offered with a major in health education. See section of this catalog entitled "The Master's Degree."

**Lower Division Courses****\*21. Principles of Healthful Living (2) I, II**

An approach to the personal health problems of college students. Scientific health information is provided, and an attempt is made to promote wholesome attitudes and desirable practices relating to healthful living. Includes instruction as required by statutes on safety, fire prevention, and stimulants and narcotics. A general education course required of all freshmen.



**65. Community Health (3) I, II**

Community health problems; the role of the citizen, of the public, and of community health agencies in promoting and protecting the health of the community.

**\*90. Physiology of Reproduction (1) I, II**

A series of lectures and discussions dealing with normal and abnormal physiology and anatomy of reproduction; facts and frauds in sex hygiene, and related topics. A general education course in family life education.

**Upper Division Courses****145. Safety Education and Accident Prevention (3) II**

Highway safety, the fundamentals of safety programs and techniques in home, school and industry. Partially satisfies the requirements for state credential in driver education.

**151. Health Education for Teachers (2) I, II**

The teacher's function in the different aspects of the school health program; environment, services, and instruction. Special attention is given to materials and material sources, and to community relationships and resources. Separate sections for elementary and secondary teachers are offered. Partially fulfills health and development credential requirement for nurses.

**152. Health Education Programs (3) I**

The construction of the health education program including objectives, scope and sequence of instruction, teaching methods, source materials and evaluation procedures; practice in building instructional units.

**153. Administration of the School Health Program (3) II**

Administrative responsibilities and procedures in organizing and conducting the school health program. Principles, policies, and practices involved in instruction, service, environment, and community relationships. Partially fulfills Health and Development Credential requirement for nurses.

**154. Workshop in Health Education (2) Summer**

For elementary and secondary administrators, school nurses, and teachers. The workshop provides opportunities for participants to work together toward the improvement of the total school health program in such areas as health instruction, health services, health environment, and community health. May be taken three times for credit.

**190. Introduction to Public Health (3) I**

Philosophy, development, organization, administration, and legal aspects of public health in the United States. Disease prevention and control, health education, and the other functions and activities of official health departments, voluntary agencies, private physicians and others engaged in professional health work.

**191. Supervised Field Experience (1-3) II**

Class discussion and supervised practical experience in local health agencies. Prerequisites: Senior standing and permission of instructor.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****200. Evaluation Procedures in Physical Education, Health Education and Recreation (2) I (Same course as Physical Education 200)**

A study of tests and measurements in the profession with practice in their use, construction and interpretation of results. Not open to students with credit for Physical Education 200.

**202. Problems in Health Education (2) (Alternate Years)**

Current problems in Health Education, studied through a review of the literature, discussion of trends, observation of school situations, together with the analysis and evaluation of actual problems. Written reports required.

**205. Curriculum in Physical Education and Health Education (2)**

(Offered in alternate years) (Same course as Physical Education 205)

Analysis of current curricula in physical education and health education, with special emphasis upon curriculum construction and evaluation. Not open to students with credit for Physical Education 205.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3) I, II**

Guidance in the preparation of a project or thesis for the master's degree.

**HISTORY****IN THE DIVISION OF HUMANITIES****Major**

A *major in arts and sciences* is offered in *history* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division: Required in the major: History 4A-4B, or 8A-8B. Recommended in general education for majors: Political Science 1A-1B, or 71A-71B, or Economics 1A-1B. Both of the above history courses are recommended for students planning to major in history. No freshman shall enroll in more than one lower division course in history during any one semester without the permission of the department. Upper division requirements: A minimum of 24 upper division units in history, including History 198, and a minimum of a year of concentration in each of three of the following fields: (a) Ancient and Medieval; (b) Modern Europe; (c) United States; (d) Latin America; (e) Pacific Area and the Far East. These courses must be selected under the guidance of the chairman of the department. A reading knowledge of one foreign language is strongly recommended. History majors are not required to complete a minor.

A *teaching major* is not offered in history; however, courses in history may be used as part of the *teaching major in social sciences* for the general secondary and junior high school credentials. For statement of requirements, refer to these credentials.

**Minor**

A *minor in arts and sciences* is offered in *history*. The minor consists of 15 to 22 units in history, nine of which must be in courses carrying upper division credit, including a year course.

A *teaching minor in history* is offered for the general secondary credential. Courses in history may be used as part of the social science teaching minor for the special secondary, general elementary, and kindergarten-primary credentials. For statement of requirements, refer to these credentials.

**The Master's Degree**

The master of arts degree for teaching service is offered with a major in history. See section of this catalog entitled "The Master's Degree."

**Explanation of Courses**

NOTE: History 17A-17B does not count toward credit for a major in history.

Any history course, with the exception of History 17A-17B and 270A-270B, may be taken either semester, the A part not being a prerequisite to the B part.

**Lower Division Courses****\*4A-4B. History of Modern Europe (3-3) Year, I, II**

European society and institutions from about 1500 to the present. A general education course in social science.

**\*8A-8B. History of the Americas (3-3) Year, I**

Survey of the history of the western hemisphere from its discovery to the present time. This year course meets the graduation requirement in American history, institutions and ideals. 8B meets the graduation requirement in California State and local government. A general education course in social science.

**\*17A-17B. History of American Civilization (3-3) Year, I**

Survey of the political and social development of the United States, with emphasis upon the rise of American civilization and ideals. This year course meets the graduation requirement in American history, U. S. Constitution, and state and local government. The first semester course, 17A, clears the requirement in U. S. Constitution; the second semester course, 17B, clears the requirement in state and local government. Both first and second semester courses are needed to clear the requirement in American history. This course is a general education course in social science.

**Upper Division Courses****111A-111B. Ancient History (3-3) Year, I**

Fall semester: Greek history to the Roman conquest. Spring semester: Roman history to the fifth century A.D.

**\*121A-121B. Medieval History (3-3) Year, I**

European social, cultural, and political developments from the fall of Rome to the Renaissance. A general education course in social science.

**131A-131B. Renaissance and Reformation (3-3) Year, I**

Personalities and events connected with the social, political, cultural, economic and religious change between 1300 and 1600. Not open to students with credit for History 132-S.

**132-S. Culture of the Renaissance (3) Summer**

Development of art, literature, philosophy and social life between 1300 and 1600. Not open to students with credit for History 131A-131B.

**141. Europe in the Seventeenth and Eighteenth Centuries (3) I**

European thought, politics and international relations from the Thirty Years' War and Louis XIV to 1763.

**142. The French Revolution and Napoleonic Era (3) II**

France on the eve of the Revolution; the Great Revolution, 1789-1799; the Napoleonic Era.

**143A-143B. Europe in the Nineteenth Century (3-3) Year, I**

Reaction in Europe, the development of nationalism, the impact of industrialism and social reform.

**144A-144B. Europe in the Twentieth Century (3-3) Year, I**

Political and social developments from 1870 to the present.

**145-S. Diplomatic History of Europe, 1870-1920 (3) Summer**

Survey of treaties, alliances and ententes leading up to World War I; World War I and the subsequent international settlements to 1920.

**147A-147B. Expansion of Russia (3-3) Year, I**

Political, social, and economic expansion of Russia in Europe and Asia from the earliest times to the present. Second semester: Emphasis on the twentieth century. (Formerly History 192).

**151A-151B. History of England (3-3) Year, I**

Political, constitutional, and social developments since the Norman Conquest. Recommended for prelegal students and majors in English.

**156A-156B. History of British and European Imperialism (3-3) Year, I**

A comparative study of the growth and decline of modern empires with emphasis on the nineteenth and twentieth centuries.

**161. Mexico and Caribbean Countries (3) I**

Special attention to relations between the United States and these countries, and to recent developments in Mexico.



**162. South America Since Independence (3) II**

Republics of South America. Development of nationality, struggles for political stability, exploitation, diplomatic and commercial relations with the United States, and other international problems of South America. Survey of present-day conditions.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**171A-171B. Rise of the American Nation (3-3) Year, I**

(Offered in 1956-57 and alternate years)

The colonial period in American history through the American revolution.

**\*172A-172B. Development of the Federal Union (3-3) Year, I**

Political, cultural, social, and intellectual aspects of the Confederation and Convention of 1787; the administrations of Washington, through John Quincy Adams. This year course meets the graduation requirements in American history, institutions and ideals. History 172A meets the graduation requirement in United States Constitution. History 172B includes materials which meet the requirements in California state and local government. This course is a general education course in social science.

**173A-173B. The Expansion of the United States (3-3) Year, I**

(Offered in 1957-58 and alternate years)

Lectures and readings on Jacksonian democracy, territorial expansion and the Mexican War, the slavery controversy, Civil War and Reconstruction, and attention to the growth and progress of the United States to the close of the nineteenth century.

**175A-175B. The United States in the Twentieth Century (3-3) I**

The rise of the United States to the position of a world power; social and economic problems posed by the machine age; political action and adjustment, actual and proposed, intended as solutions for these problems.

**176A-176B. American Foreign Policy (3-3) Year, I**

Lectures and readings in the field of American foreign relations since 1776, with special emphasis, in the second semester, upon affairs since 1900. A general survey course. This year-course meets the graduation requirement in American history, institutions, and ideals.

**\*179A-179B. Intellectual History of the American People (3-3) Year, I**

A study of the ebb and flow of ideas in the United States since the founding of the English colonies, with special attention devoted to social and political thought. This year course meets the graduation requirement in American history, institutions and ideals. A general education course in social science.

**181A-181B. History of the West (3-3) Year, I**

The American frontier: Expansion, exploration, settlement and building of the new states, with emphasis upon frontier problems of defense, communications, finance, etc.; the development of cultural institutions. A critical examination of the causes, effects and results of the frontier experiences of the American people.

**189. History of California (3) I, II**

The economic, social, intellectual, and political development of California from the earliest times. Emphasis will be on the founding of California, international struggles for California; American conquest and Gold Rush Era; development of California as a state. This course meets the graduation requirement in California state and local government.

**190A-190B. History of the Pacific Ocean Area (3-3) Year, I**

A general survey of the history and civilization of the peoples of the Pacific, with special emphasis upon exploration, trade, international rivalries, and social evolution of the island areas.

**191A-191B. History of the Far East (3-3) Year, I**

Particular emphasis during the first semester upon the history, both internal and international, of the Far East through the nineteenth century. The second semester will be devoted to a consideration of developments in the twentieth century.

**193. History of China (3) I (Offered in 1956-57 and alternate years)**

A survey of Chinese history and institutions from antiquity to the present.

**194. History of Japan (3) I (Offered in 1957-58 and alternate years)**

A general survey of the political, economic and social development from the foundation of the empire to contemporary times. Special attention will be given to religions, philosophy, literature, and the arts.

**198. Introduction to Historiography and Historical Method (2) II**

Required of all students with a history major. To be attended during the senior year. Open to social science majors.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****270A-270B. Seminar (2-2) Year, I**

Required of all candidates for the M.A. degree in history. Open to social science majors. Prerequisite: permission of instructor. 270A is a prerequisite for 270B.

**290. Bibliography (1)**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree.

**HOME ECONOMICS****IN THE DIVISION OF FINE ARTS**

The program of study in home economics is planned for students who are interested in home economics as a background for everyday living, preparation for family life, and education for parenthood, and for students planning to enter commercial home economics or the field of teaching. The home arts curriculum, described below, offers a general program for students desiring a broad type of training in home arts. The major in home economics offers a greater opportunity for concentration in the field, including preparation for entry into commercial home economics or the field of teaching.

**Major**

A *major in arts and sciences* is offered in *home economics*. Requirements in the the major are in addition to the 45 units required in general education courses. A minor is not required.

Specific requirements for the major: lower division: Home Economics 2, 3, 15, 40, 41, 42, 43, 70; in related fields: Art 6A and Economics 1A (general education courses); Biology 1, Chemistry 2A-2B, and Physics 5. (12 units in natural science may be counted toward general education requirements.) Upper division: 24 units to include Home Economics 100, 115, 130, 131, 150, 151, 170, 180, and five units to be selected from Home Economics 102, 116, 117, or 135. A course in marriage and the family must be included either in general education or in the major.

**Minor**

A *minor in arts and sciences* is offered in *home economics*. The minor consists of 15 to 22 units in home economics, nine units of which must be in courses carrying upper division credit. Lower division requirements: Home Economics 3, 15, and 70. Upper division requirements: Home Economics 150 and six units of upper division electives in home economics.

A *teaching minor in home economics* is offered for the general secondary and junior high credentials. For statement of requirements, refer to these credentials. A student with a minor in home economics may teach home economics in junior high school with a junior high school credential. Through counseling with the adviser in home economics, a student may so extend the minor in home economics that the special secondary credential in home economics may be obtained with a minimum amount of additional work in the field.

**Home Arts Curriculum**

The home arts curriculum, designed around the general major, leads to the A.B. degree in arts and sciences. Courses in the major are in addition to 45 units in general education courses. A minor is not required. Lower division requirements: Home Economics 1, 3, 15, and 70; Sociology 50 and 51; and six lower division units selected from a third field with the approval of the departmental adviser. Upper division requirements: 15 upper division units in home economics selected with the approval of the departmental adviser; 9-12 upper division units in sociology; and 9-12 upper division units in the third field, all courses to be selected with the approval of the departmental adviser as part of a general major.

**Lower Division Courses****\*1. General Home Arts (3) I, II**

A general education course in family life education. Consideration of necessary preparation for marriage with emphasis on a stable, happy democratic family life; family budgets and money management; finding a home to buy, build or rent; child care, proper training and guidance; home safety. Open to men and women.

**2. Orientation to Home Economics as a Profession (1) I, II**

Introduction to the opportunities and requirements in various professional fields for home economists.

**\*3. Food and Nutrition (3) I, II**

Selection, purchase, and serving of meals with a consideration of nutritional needs of the family groups, food habits, and social customs; management problems. One lecture and two laboratory periods per week. A general education course in family life education or in practical arts in the area of literature, philosophy, and the arts.

**\*4A. General Nutrition (2) I, II**

Practical problems of nutrition, including food requirements, food selection, and food habits. The relation of nutrition to health. Two lectures per week. Open to both men and women, except home economics majors. Maximum credit in Home Economics 3 and 4A is four units. A general education course in family life education or in practical arts in the area of literature, philosophy, and the arts.

**4B. Nutrition Laboratory (1) II**

Principles of nutrition applied to food preparation, meal planning, and special diets. Limited to students admitted to the nursing curriculum. One three-hour laboratory period per week.

**\*15. Clothing and Textiles (3) I, II**

Commercial patterns and their adaptation; fitting and construction, primarily with cotton material. Selection and care of textiles. Wardrobe planning and buying practices. Good grooming. A general education course in family life education and in practical arts in the area of literature, philosophy, and the arts.

**40. Budgeting the Family Income (2) I, II**

Family buying problems; finance planning, accounting; consumer credit, investments, and control of property.



**41. Home Care of the Sick (1) II**

Family health; mother and baby care; safety in the home.

**42. Problems of Family Living (2) I**

The activities of the family and the functions of the homemaker in modern society; the individual's contribution to successful family living.

**43. Household Equipment (2) I**

Selection, methods of operation, and care of household appliances. The testing of various types of equipment for safety, efficiency, and cost of operation. Efficient kitchen arrangement.

**\*70. Children in the Home (2) II**

Development during the prenatal period, first 10 years. Nutrition, physical development, and family influences on the young child. Observation required. A general education course in family life education.

**Upper Division Courses****100. Advanced Foods (3) I**

Fundamentals and practices of scientific food preparation. Development of standards in food preparation, meal planning, and service. Prerequisites: Home Economics 3 and Chemistry 2B.

**101. Family Meals (3) I**

Planning, preparing, and serving of attractive, well-balanced meals for different income levels and for various occasions. Not open to home economics majors.

**102. Advanced Nutrition and Dietetics (3) II**

Principles of nutrition and dietetics as related to individuals and family groups. Prerequisite: Home Economics 100.

**115. Advanced Clothing (3) I, II**

Fitting and construction processes applied to wool, silk, and synthetics, emphasizing fundamental principles of handling. Prerequisite: Home Economics 15.

**116. Advanced Clothing Design (3) II**

Principles of tailoring; planning and construction of coats and suits. Prerequisite: Home Economics 115.

**117. Clothing Selection (3) I**

Appropriate clothing for the individual and the family. Basic art principles, fashion trends, history of costume, buying practices; current legislation in textiles and clothing.

**130. Family Housing (2) I**

Choosing and furnishing a home from the standpoint of economy, comfort, and beauty. One lecture and one three-hour laboratory period per week. Prerequisites: Art 6A and Home Economics 40.

**131. Home Furnishing Laboratory (2) II**

Simple upholstering techniques; finishing furniture and interior woodwork. One lecture and one three-hour workshop period per week. Prerequisites: Home Economics 15 and 130. Home Economics 130 may be taken concurrently. Student supplies his own tools, furniture, and fabrics.

**\*135. Marriage and the Family (3) I, II (Same course as Sociology 135)**

Background factors predictive of happy and successful marriages; family forms in other cultures; principal areas of adjustment in marriage; parent-child problems; the changing adolescent; causes and results of divorce; the family of tomorrow. A general education course in family life education. Not open to students with credit for Sociology 35, 135, or other course in marriage and family.

**\*150. Home Management (3) I, II**

Efficient management of the home; family cooperation, establishment of goals, and productive use of money, time and energy. Open to both men and women. A general education course in family life education.

**151. Home Management Laboratory (3) I, II**

Five weeks' residence in a family-size unit. Practical applications and evaluative experience in home management and family living. Prerequisites: Home Economics 100, 150, permission of instructor and departmental approval.

**160. Merchandise Analysis (3) II (Same course as Business Administration 160)**

Characteristics, merits, limitations, care, and selling points of the more important textile and nontextile products. Stress on manufacturing processes as they affect consumer demands. Not open to home economics majors. Not open to students with credit for Business Administration 160. (Formerly Home Economics 119A-119B.)

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**170. Child Development Laboratory (2) I**

Observation of young children; participation in child and parent education. Discussion one hour, observation and participation two hours per week. Prerequisite: Home Economics 70 or permission of instructor.

**180. Demonstration Methods (1) II**

Organizing materials and acquiring techniques for demonstrations; observation and evaluation of professional demonstrations. Prerequisite: Nine units in home economics courses.

**181. Materials and Techniques for Teaching Home Economics (2) II**

Development and use of audio-visual and other instructional materials. Prerequisite: Education 100B-HE or concurrent registration.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: Permission of instructor.

## INDUSTRIAL ARTS

### IN THE DIVISION OF PHYSICAL SCIENCES

Courses in industrial arts lead to the following objectives: (1) a major or minor in arts and sciences; (2) a teaching major or minor for several of the teaching credentials; and (3) general education and individual interests. Many of the courses will prove valuable to students desiring practical shop experience on an elective basis.

#### Major

A *major in arts and sciences* is offered in *industrial arts*. Requirements in the major are in addition to the 45 units required in general education courses. A minor field is not required.

Specific requirements for the major: Lower division: Industrial Arts 11 will be taken at the beginning of the major. Five courses to be selected from Industrial Arts 21, 31, 51, 61, 71, or 81 (17 units total in lower division). Art 6A is a prerequisite for certain upper division courses. It may be counted toward general education requirements in the area of literature, philosophy, and the arts. Upper division: A minimum of 24 upper division units to include 9 units in *each of two* of the following areas: industrial drawing, general metalworking, general wood-working, electricity-radio, transportation, or graphic arts; and 6 units selected from the areas just mentioned, or from handicraft courses, photographic courses, or the general shop sequence.

A *teaching major in industrial arts* is offered for the special secondary credential and the general secondary credential. For a description of requirements, refer to these credentials.

**Minor**

A *minor in arts and sciences* is offered in *industrial arts*. The minor consists of 20 units in industrial arts to include Industrial Arts 11, 21, and 121, and one lower division and one upper division course in *each of two* of the following areas: general woodworking, general metalworking, electricity-radio, transportation, and graphic arts. Electives should be chosen in consultation with the chairman of the department.

A *teaching minor in industrial arts* is offered for the junior high, special secondary, general elementary, and kindergarten-primary credentials.

**The Master's Degree**

The master of arts degree for teaching service is offered with a major in industrial arts. See section of this catalog entitled "The Master's Degree."

**Lower Division Courses****\*5. General Education Shop (3) I, II**

A course in practical arts utilizing the tools and materials of the general metalworking area. Activities include individual projects, field trips, and audio-visual materials. May be counted toward general education requirements in the area of literature, philosophy, and the arts.

**\*6. General Education Shop (3) I, II**

A course in practical arts utilizing the tools and materials of industrial arts. Activities include individual projects, field trips, and audio-visual materials. May be counted toward general education requirements in the area of literature, philosophy, and the arts.

**11. Orientation to the Industrial Arts Profession (2) I, II**

Professional requirements and modern trends in industrial arts education. Problems of teaching and shop organization in the various fields of specialization, directed observation. Required of all industrial arts majors during their first semester.

**21. Industrial Drawing (3) I, II**

Development of the skills of industrial drawing. Experience in sketching, architectural drafting, mechanical drawing, sheetmetal layout, design, planning, blackboard drawing, mapping and other forms of graphic presentation.

**31. General Metalworking (3) I, II**

Development of the skills of general metal working. Experience in machine shop practice, welding, bench metal, art metal, forge, foundry and sheetmetal.

**51. General Woodworking (3) I, II**

Development of the skills of general woodworking. Experience in cabinetmaking, woodturning, patternmaking, carpentry, boatbuilding, and finishing.

**61. Electricity-Radio (3) I, II**

Development of the skills for and the understandings of the electricity-radio area. Experience with electrical and radio principles and their application.

**71. Transportation (3) I, II**

Development of the skills of transportation machinery maintenance. Experience in the maintenance of equipment for land, sea and air transportation and an understanding of the mechanical principles involved.

**81. Graphic Arts (3) I, II**

Development of the skills of graphic arts. Experience in hand composition, press work, and other activities such as bookbinding, photography, silk screen, relief and intaglio printing and other duplicating processes. An understanding of the composition of papers and inks.



**\*85. Introduction to Photography (3) I, II**

A consideration of photographic optics and chemistry; nature of light and image formation; photographic emulsions, exposure and development. Composition and lighting. Two lectures and one three-hour laboratory per week. A course in practical arts which may be counted toward general education requirements in the area of literature, philosophy, and the arts, unless used as part of the major in industrial arts. Not open to students with credit for Journalism 50.

**Upper Division Courses****101. Handicrafts for Teachers (2) I, II**

For industrial arts or recreational students who desire to teach handicrafts. Skills in handicrafts are emphasized and directed toward the instructional process. Prerequisites: permission of the instructor and some previous shop experience.

**102. Materials and Techniques for Teaching Handicrafts (3) I, II**

More advanced techniques of handicrafts. Development of audio-visual aids, projects, and resource material for handicrafts. Physical setting, organization, and other pertinent problems. A course of instruction is prepared. Prerequisite: Industrial Arts 101.

**105-S. Construction Activities for Teachers (3) Summer**

Use of common hand tools in construction of teaching aids. Preparation of materials for classroom use in arithmetic, reading, science, social studies, and other curriculum areas. Not open to Industrial Arts majors.

**111. General Shop for Teachers (2) I, II**

For industrial arts students who desire to teach general shop. Skill in the general shop is emphasized and directed toward the instructional process. Prerequisites: permission of the instructor and some previous shop experience.

**112. Materials and Techniques for Teaching General Shop (3) I, II**

More advanced techniques for the general shop. Development of audio-visual aids, projects, and resource material for teaching general shop. Physical setting, organization, and other pertinent problems. A course of instruction is prepared. Prerequisite: Industrial Arts 111.

**121. Industrial Drawing (3) I, II**

Further experience in sketching, architectural drafting, mechanical drawing, sheet-metal layout, design, planning, blackboard drawing, mapping, and other forms of graphic presentation. A high level of performance is expected. Prerequisite: Industrial Arts 21.

**122. Industrial Drawing for Teachers (3) I, II**

For industrial arts students who desire to teach industrial drawing. Advanced skills are developed and directed toward the instructional process. Emphasis is placed on the junior and senior high school program. Prerequisites: Industrial Arts 121 and Art 6A. Not open to students with credit for Industrial Arts 122A or 122B.

**123. Materials and Techniques for Teaching Industrial Drawing (3) I, II**

More advanced techniques of industrial drawing. Development of audio-visual aids, projects, and resource material for industrial drawing. Physical setting, organization, and other pertinent problems. A course of instruction is prepared. Prerequisites: Industrial Arts 122 and Education 100.

**131. General Metalworking (3) I, II**

Further experience in machine shop practice, welding, bench metal, art metal, forge, foundry, and sheetmetal. A high level of performance is expected. Prerequisite: Industrial Arts 31.

**132. General Metalworking for Teachers (3) I, II**

For industrial arts students who desire to teach metalworking. Advanced skills are developed and directed toward the instructional process. Emphasis is placed on the junior and senior high school program. Prerequisites: Industrial Arts 131 and Art 6A. Not open to students with credit for Industrial Arts 132A or 132B.

**133. Materials and Techniques for Teaching General Metalworking (3) I, II**

More advanced techniques of metalworking. Development of audio-visual aids, projects and resource material for metalworking. Physical setting, organization and other pertinent problems. A course of instruction is prepared. Prerequisites: Industrial Arts 132 and Education 100.

**151. General Woodworking (3) I, II**

Further experience in cabinetmaking, woodturning, patternmaking, carpentry, boatbuilding, and finishing. A high level of performance is expected. Prerequisite: Industrial Arts 51.

**152. General Woodworking for Teachers (3) I, II**

For industrial arts students who desire to teach woodworking. Advanced skills are developed and directed toward the instructional process. Emphasis is placed on the junior and senior high school program. Prerequisites: Industrial Arts 151 and Art 6A. Not open to students with credit for Industrial Arts 152A or 152B.

**153. Materials and Techniques for Teaching General Woodworking (3) I, II**

More advanced techniques of woodworking. Development of audio-visual aids, projects, and resource material for woodworking. Physical setting, organization, and other pertinent problems. A course of instruction is prepared. Prerequisites: Industrial Arts 152 and Education 100.

**161. Electricity-Radio (3) I, II**

Further experience with electrical and radio principles and their applications. A high level of performance is expected. Prerequisite: Industrial Arts 61.

**162. Electricity-Radio for Teachers (3) I, II**

For industrial arts students who desire to teach electricity-radio. Advanced skills are developed and directed toward the instructional process. Emphasis is placed on the junior and senior high school program. Prerequisites: Industrial Arts 161 and Art 6A. Not open to students with credit for Industrial Arts 162A or 162B.

**163. Materials and Techniques for Teaching Electricity-Radio (3) I, II**

More advanced techniques for electricity and radio. Development of audio-visual aids, projects, and resource material for electricity and radio. Physical setting, organization, and other pertinent problems. A course of instruction is prepared. Prerequisites: Industrial Arts 162 and Education 100.

**171. Transportation (3) I, II**

Further experience in the maintenance of equipment for land, sea, and air transportation, and development of an understanding of the mechanical principles involved. A high level of performance is expected. Prerequisite: Industrial Arts 71.

**172. Transportation for Teachers (3) I, II**

For industrial arts students who desire to teach transportation. Advanced skills are developed and directed toward the instructional process. Emphasis is placed on the junior and senior high school program. Prerequisites: Industrial Arts 171 and Art 6A. Not open to students with credit for Industrial Arts 172A or 172B.

**173. Materials and Techniques for Teaching Transportation (3) I, II**

More advanced techniques of transportation machinery maintenance. Development of audio-visual aids, projects, and resource material for transportation. Physical setting, organization, and other pertinent problems are discussed. A course of instruction is prepared. Prerequisites: Industrial Arts 172 and Education 100.

**181. Graphic Arts (3) I, II**

Further experience in hand composition, press work, and other activities such as bookbinding, photography, silk screen, relief and intaglio printing, and other duplicating processes. A high level of performance is expected. Prerequisite: Industrial Arts 81.

**182. Graphic Arts for Teachers (3) I, II**

For industrial arts students who desire to teach graphic arts. Advanced skills are developed and directed toward the instructional process. Emphasis is placed on the junior and senior high school program. Prerequisites: Industrial Arts 181 and Art 6A. Not open to students with credit for Industrial Arts 182A or 182B.

**183. Materials and Techniques for Teaching Graphic Arts (3) I, II**

More advanced techniques of graphic arts. Development of audio-visual aids, projects, and resources material for graphic arts. Physical setting, organization, and other pertinent problems. A course of instruction is prepared. Prerequisites: Industrial Arts 182 and Education 100.

**185. Photography for Teachers (3) I, II**

Designed for more mature students to learn photographic skills useful in teaching.

**186. Advanced Photography (3) I, II**

A consideration of advanced negative control, projection printing techniques, composition and editorial content, architectural and illustrative photography, and flood photoflash techniques. Two lectures and three hours of laboratory per week. Prerequisite: Industrial Arts 85 or equivalent.

**190. Experimental Shop (1 or 2) I, II**

Individual shop work on complex projects on an experimental basis. Prerequisite: permission of the instructor. May be repeated with permission of the instructor.

**193. Industrial Arts Organization and Management (2) I, II**

Study of the organization of Industrial Arts in secondary schools, review of project requirements and methods of developing student participation in shop management. Two lectures per week.

**194. Recent Trends in Industrial Arts Education (2) I, II**

Survey of current trends and practices in the field of Industrial Arts in Secondary Education. There will be opportunity for individual work on related problems of interest to member of the class. Two lectures per week.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****200. Seminar (3) I, II**

An intensive study of one phase of industrial education: (a) development of the industrial arts curriculum; (b) shop organization and management; (c) supervision and administration; (d) evaluation; (e) problems of shop planning; (f) history and philosophy of industrial education. May be repeated with new materials for additional credit.

**201. Advanced Teaching Problems (3) I, II**

Materials and advanced techniques of teaching specific activity areas, such as (a) industrial drawing; (b) general metalworking; (c) general woodworking; (d) electricity-radio; (e) transportation; (f) graphic arts; (g) photography; (h) comprehensive general shop. Stress on project design and visual materials. Prerequisites: teaching experience in area selected and permission of instructor. May be repeated with new materials for additional credit.

**290. Bibliography (1) I, II**

Exercise in the use of basic reference books, professional literature, and specialized bibliographies, preparatory to the writing of a master's thesis.

**298. Special Study (1-6) I, II**

Individual study. Prerequisite: Permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3) I, II**

Guidance in the preparation of a project or thesis in industrial arts for the master's degree.



## INTER-AMERICAN RELATIONS

## IN THE DIVISION OF SOCIAL SCIENCES

A curriculum in inter-American relations leading to the A.B. degree is offered as a major in social science. This curriculum provides (1) a basis for a more effective understanding of the problems of international relations in the western hemisphere; (2) facilitates for a basic education and training for a business or professional career involving inter-American understanding; and (3) undergraduate preparation for the comprehensive examinations required for appointment in the Foreign Service of the United States Department of State.

High school students preparing to enter this program should include in their high school courses of studies three years in one foreign language, preferably Spanish or Portuguese. Proficiency in either or both of these languages is indispensable to a successful career in this area of study.

Students must consult with the adviser in inter-American relations in planning their programs. The major in social science must be completed for the degree. Lower division courses in this major must be selected from the following: Anthropology 1A-1B, Economics 1A-1B, Geography 1 and 2, History 8A-8B, and Political Science 1A-1B. Courses recommended in the upper division include: Economics 190 and 195, Geography 123 and 124, History 161 and 162, Political Science 175 and 182. Additional courses needed to complete the major may be selected from the following: Anthropology 151B, Geography 121, History 173A-173B, Political Science 170A-170B and 171. Refer to the major in social science for specific information on requirements.

The following courses should be included in general education: Aesthetics 51, Comparative Literature 104A-104B, General Culture 116. A minor in Spanish is strongly recommended.

## JOURNALISM

## IN THE DIVISION OF SOCIAL SCIENCES

## Major

A *major in arts and sciences* is offered in *journalism* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division: required in the major: Journalism 50, 51A-51B, Business 2A (or equivalent performance in typing). Recommended: Economics 1A-1B, English 20 or General Language 20, English 61, Speech Arts 81A or 81B. Upper division requirements: 24 upper division units in journalism to include Journalism 102 and 151. Recommended elective: Business Administration 153. A minor is not required.

## Minor

A *minor in arts and sciences* is offered in *journalism*. The minor consists of 15 to 22 units in journalism, nine units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in journalism.

## Lower Division Courses

## 49. Introduction to Mass Communications (3) I

A survey of the work of mass media, their interrelationships, and the services they perform for society; common problems and responsibilities of the mass media; training and background needed in different media.

## 50. News and Feature Photography (2) I, II

An elementary course designed primarily for students of journalism and public relations; experience with professional photographic equipment and film processing; contact and projection printing; emphasis on composition and news value of pictures. One hour lecture and three hours laboratory. Not open to students with credit for Industrial Arts 85.

## 51A. Elements of Journalism (3) I

Theory of news writing; introduction to the newspaper as an institution in modern society. Prerequisites: sophomore standing and grade of B in freshman composition, or consent of instructor; and Business Administration 71 (may be taken concurrently) or equivalent, with 30-word-per-minute performance.

**51B. News Gathering and Reporting (3) II**

Practice in writing news copy, both for class criticism and for publication in *The Aztec*. Prerequisite: grade of C or better in Journalism 51A.

**53. Advanced News and Feature Photography (2) I**

Continuation of Journalism 50. Prerequisite: Journalism 50, or equivalent.

**92. Newspaper Production (1-3) I, II**

Special work in journalism by arrangement with the instructor. Includes reporting, editing, taking and processing pictures, working with the printer, proofreading in production of *The Aztec*. Laboratory periods required. Total credit in Journalism 92, 93, 192, and 193 limited to eight units.

**93. Yearbook and Magazine Production (1-3) I, II**

Special work in yearbook and magazine production by arrangement with the instructor. Includes editing and photographic work on Del Sud and campus magazines. Laboratory periods required. Total credit in Journalism 92, 93, 192, and 193 limited to eight units.

**Upper Division Courses****101. Interpretative Writing (3) II**

Practice in gathering material and writing articles for specialized areas, with emphasis on the business press. Production of eight articles and marketing of at least one article required. Prerequisite: junior standing and permission of instructor.

**102. Law of Mass Communications (3) II**

Study of libel, defamation, privacy, censorship, advertising laws, postal regulations, and constitutional guaranties affecting press, radio, television; rights and responsibilities of communicators in reporting public affairs.

**103. Picture Editing (2) II**

Editorial problems of newspaper and magazine illustration; picture selection, cropping, captioning, layout; the picture story; use of charts, diagrams, cartoons, maps; picture sources. Students will receive credit for work on the student publications.

**104. Radio and Television News (3) I**

Gathering, writing, and editing news in special forms required by radio and television; processing wire service copy, still pictures, and kinescopes; filming, editing, and scripting news on motion pictures; using recorders to report special events.

**105. Editorial Writing (3) I**

Training in the principles and policies of editorial composition for mass communications media.

**106. Creative Writing (3) I (Same course as English 106)**

A writing workshop in which students are given opportunity to criticize each other's work. Emphasis on narrative and description, but freedom to pursue whatever writing forms may interest the student most. May be taken a second time with new material. Not open to students with credit for English 106.

**107. Technical Writing (3) II**

Reporting technical developments in nontechnical language. A course in writing and editing primarily for nonmajors in journalism.

**117. History of Mass Communications (3) I**

American journalism from colonial times to the present, with special attention to radio and other mass media which have entered the news and entertainment field; the relation of their development to society.

**121. Current Problems in Mass Communications (3) II**

Forces affecting mass communications today: government restrictions, economics, pressure groups, censorship, mechanical developments, interrelationships of the media and society; professional ethics.

**122. Public Opinion Measurement (3) II** (Same course as Psychology 122)

The history, methods, and problems of public opinion and attitude measurement. Emphasis will be placed upon the polling of consumers and voters. Students will be given field experience. Not open to students with credit for Psychology 122.

**132. Propaganda and Public Opinion (3) II**  
(Same course as Political Science 122)

A study of the forces which mold the American public mind, the practice of propaganda, a description and analysis of public relations, pressure groups and their effect in American public life. Not open to students with credit for Political Science 122.

**142. State Government (3) II** (Same course as Political Science 142)

A study of the political structure and its operation used in the carrying on of the functions exercised by the states; state-federal relations; state-local government relations; particular emphasis on California government. This course meets the graduation requirement in California state and local government. Not open to students with credit for Political Science 142.

**143. Municipal and County Government (3) I**  
(Same course as Political Science 143)

A study of the organization and its operation used to carry into effect the functions assigned to local governmental units; particular emphasis upon local government in California. This course meets the graduation requirement in California state and local government. Not open to students with credit for Political Science 143.

**144. Reporting of Public Affairs (3) II**

Coverage of the city hall, courthouse, police headquarters, federal agencies, courts, and other public and political centers. Prerequisites: Journalism 51A and 51B and 102, or permission of instructor. Recommended Journalism 142 and 143, or Political Science 142 and 143.

**151. Advanced Editing and Reporting Techniques (3) I**

Editing copy, writing headlines, making up pages, handling telegraph copy. Practice in specialized forms of journalistic writing. Laboratory periods required. Prerequisite: Journalism 51A-51B.

**152. High School Journalism (3) II**

Methods of conducting high school journalism classes. Editorial, business and mechanical aspects of school publication work, with emphasis on copy editing, headline writing and layout. Not open to journalism majors. Prerequisite: grade of C or better in Journalism 51A and approval of instructor.

**162. Magazine Fiction (3) II** (Same course as English 162)

Coaching in constructing and writing short stories for commercial publications. Admission with consent of instructor. Not open to students with credit for English 162.

**166. Honors Course (Credit to be arranged) I, II**

Special study open to members of the Honors Program in journalism. Refer to the Honors Program.

**180. Public Relations (3) I** (Same course as Business Administration 155)

Principles, methods, and objectives in the field of public relations; evaluation of the "publics" of institutions and industry; case studies of public relations problems. Prerequisites: Journalism 51A-51B, or permission of the instructor. Not open to students with credit for Business Administration 155.



**183. Problems in Public Relations (3) II**

Current public relations problems of industry, public agencies, and other institutions. Prerequisite: Journalism 180 or Business Administration 155.

**184. Writing for Radio and Television (3) II (Same course as Speech Arts 184)**

Scripts, documentaries, music, continuity for each program type. Correlates writing with radio and television acting and announcing styles. Program formats. Prerequisites: Speech Arts 81A or equivalent. Not open to students with credit for Speech Arts 184.

**191A-191B. Internship in Journalism (1-3) I, II**

Prearranged and supervised work on local magazines, city and county newspapers, radio and television stations, and on public relations, publicity, and advertising staffs of civic and business groups. Prerequisites: Journalism 51A and 51B and permission of instructor. Maximum credit six units.

**192. Newspaper Production (1-3) I, II**

Special work in journalism by arrangement with the instructor. Includes reporting, editing, taking and processing pictures, working with the printer, proofreading in production of *THE AZTEC*. Laboratory periods required. Total credit in Journalism 92, 93, 192 and 193 limited to eight units.

**193. Yearbook and Magazine Production (1-3) I, II**

Special work in yearbook and magazine production by arrangement with the instructor. Includes editing and photographic work on *DEL SUD* and campus magazines. Laboratory periods required. Total credit in Journalism 92, 93, 192, and 193 limited to eight units.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

## LABORATORY TECHNIQUE

### IN THE DIVISION OF LIFE SCIENCES

The laboratory technique curriculum is offered with the B.S. degree. This curriculum, with modifications for the types of licensures, is provided to satisfy the academic requirements to qualify for the examination given by the State of California Public Health Department for Public Health Bacteriologist, Clinical Laboratory Technician, and Medical Technologist. If the curriculum outlined by this College is followed, only six months of apprenticeship are required to complete the qualifications for the licensing examinations for Public Health Bacteriologist and Clinical Laboratory Technician. Five years of experience as a Clinical Laboratory Technician are necessary to qualify for the examination for licensure as a Medical Technologist.

The major in laboratory technique is in addition to 45 units in general education courses, except that 12 units of science courses in the major field may be counted as general education in natural science. A minor is not required.

*Specific requirements for the major:* Lower division (including courses in General Education, but required for licensure): Chemistry 1A-1B, \*Chemistry 5A, Biology 3 and 4 or Zoology 1, Bacteriology 1, Biology 15 (or equivalent), Zoology 8A-8B, \*Physics 2A and 3A. Upper division: 36 upper division units, including Chemistry 101A, \*Chemistry 114A-114B, Bacteriology 102, 103, 104, Biology 134, 189, \*Zoology 109, Zoology 128, and courses selected from Bacteriology 105, 107, Zoology 126 and 108 to complete the major.

Students should consult with the adviser in the Laboratory Technique Curriculum for selection and arrangement of courses.

\* These courses are not required for the Public Health Bacteriologist license.

## LANGUAGE ARTS

## IN THE DIVISION OF HUMANITIES

**Major**

A *language arts major in arts and sciences* is offered for the A.B. degree to students who have been admitted to the general secondary credential program in teacher education and provided that a minimum of eight units in professional education courses be completed by date of degree candidacy. Requirements for the major are in addition to 45 units in general education courses. A minor selected from an appropriate teaching minor for the general secondary credential is required of students taking this major. A minimum of 15 units in this minor, six units of which must be in upper division courses, must be completed for the A.B. degree. The additional units required for the credential may be completed either in undergraduate or postgraduate work.

Lower division requirements for the major: Six units selected from English 50A-50B, or 52A-52B, or 60A-60B (or two upper division courses may be substituted, selection to be made from English 116A-116B, or 118A-118B, or 119A-119B, or 120A-120B, or 126A-26B, or 143A-143B); Journalism 51A; Speech Arts 60A, or 60B, or 55A, or 55B; Speech Arts 81A or 81B. Upper division requirements: 27 units to include the following courses: English 192; English 106 or 191; English 131, or 132, or 133, or 134; English 117A, or 117B, or 152A, or 152B; Journalism 152; Speech Arts 108A or 108B, 159, and 176; Speech Arts 191, or 192A, or 192B. If lower division English sequence is taken in American Literature, the upper division course work in literature should be taken in other areas.

A *teaching major in language arts* is offered for the general secondary school credential. For a statement of requirements, refer to this credential.

*Minor* work is not offered in language arts.

## LIBRARY SCIENCE

## IN THE DIVISION OF SOCIAL SCIENCES

*Major* or *minor* work is not offered in library science.

**Lower Division Courses****\*10. Use of the Library (2) I, II**

The chief object is to give a working knowledge of some of the resources of the library which every teacher and student should understand—the decimal classification, the card catalog, periodical indexes, and the most important reference books, together with some instruction in the preparation of bibliographies. The course will be a requirement of those students added to the library's staff of student assistants, although it will not prepare the student to become a librarian. A general education course in practical arts, in the area of literature, philosophy, and the arts.

## LIFE SCIENCE

## IN THE DIVISION OF LIFE SCIENCES

**Major**

A *major in arts and sciences* is offered in *life science* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Botany 1 and Zoology 1, or Biology 3 and 4; Chemistry 1A-1B or 2A-2B; Biology 15; Physics 2A-2B, or, with the approval of the departmental adviser, high school physics and Geology 2 and Physical Science 1. Upper division requirements: A minimum of 24 upper division units in bacteriology, biology, botany, and zoology including Bacteriology 101, Biology 110, 155, and 161. Six units may be from an approved related field. The plan for this major must be with the approval of the Chairman of the Division of Life Sciences. A minor is not required of students majoring in life science.

A *major in arts and sciences* is offered in *life science* for the B.S. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Bacteriology 1 or 101, Botany 1, Zoology 1, Chemistry 1A-1B or 2A-2B, Physics 2A-2B. Upper division requirements: 36 upper division units in bacteriology, biology, botany, and zoology, or 27 units in these fields with nine

units in a related field. The plan for this major must be with the approval of the Chairman of the Division of Life Sciences. A minor is not required of students majoring in life science.

Note: Twelve units in natural science courses in the major for the A.B. or B.S. degree may be applied toward requirements in general education natural science courses.

A *teaching major in life science and general science* is offered for the general secondary school credential and a *teaching major in general science* is offered for the junior high school credential. For statement of requirements, refer to these credentials.

#### Other Curricula in the Life Sciences

Within the life science majors, curricula are offered for the fields of entomology, fish and game, plant quarantine, and wild life. Requirements for these curricula are the same as for the B.S. degree in zoology or in botany; the specialization for a particular occupation lies within the upper electives of the B.S. degree program.

Students in high school planning to enter any of these life science curricula should include in the high school program the following subjects: Elementary algebra, plane geometry, intermediate algebra, trigonometry, chemistry, and physics. Three years of French or German recommended.

Students planning to specialize within the area of the life sciences should consult with the departmental adviser in selection and arrangement of courses.

#### Minor

A *minor in arts and sciences* is offered in *life science*. The minor consists of 15 to 22 units in life science to include Biology 3 and 4, or the equivalent, and a minimum of nine units in courses carrying upper division credit selected with approval of the chairman of the division.

A *teaching minor in life science and general science* is offered for the general secondary, special secondary, general elementary, and kindergarten-primary credentials. For statement of requirements, refer to these credentials.

#### The Master's Degree

The master of arts degree for teaching service is offered in life science, with a concentration in botany or zoology. See section of this catalog entitled "The Master's Degree."

### MATHEMATICS

#### IN THE DIVISION OF PHYSICAL SCIENCES

#### Major

A *major in arts and sciences* is offered in *mathematics* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Mathematics C and D (unless exempted by examination); Mathematics 3A-3B and 4A. Recommended: Business Administration 2, Engineering 2, 21; Physics 4A-4B or Physics 2A-2B, 3A-3B. A reading knowledge of French or German is desirable. Upper division requirements: A minimum of 24 upper division units in mathematics to include Mathematics 117 (unless taken as Mathematics 4B in the lower division); 105 or 106 or 107, 111, 119, 121 (except that 119 and 121 are not specifically required of teacher credential candidates). Six units of the remaining nine units may be selected from upper division courses in related areas with the approval of the department. A minor is not required, but is recommended.

A *teaching major* is offered in *mathematics* for the junior high school credential and for the general secondary credential. For specific information, refer to the outline of requirements for these credentials.

#### Minor

A *minor in arts and sciences* is offered in *mathematics*. The minor consists of 15 to 22 units in mathematics, six units of which must be in courses carrying upper division credit. Courses should be selected in consultation with the departmental representative.

A *teaching minor* is offered in *mathematics* for the general secondary, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.



**The Master's Degree**

The master of arts degree for teaching service is offered in mathematics. The master of science degree is offered with a major in applied mathematics. See section of this catalog entitled "The Master's Degree."

**Lower Division Courses**

**X. Basic Mathematics (3) I, II**

Fundamentals of mathematics with applications to everyday problems. Required of all students failing the competency examination in mathematics. Not open for credit to students passing this examination. May not be used in the major or minor.

**\*A. Fundamentals of Algebra (3) I, II**

General ideas and applications of algebra. A general education course in mathematics.

**\*B. Plane Geometry (3) I, II**

Fundamentals of plane Euclidean geometry developed by both inductive and deductive processes. A general education course in mathematics. Prerequisite: Mathematics A, or equivalent.

**\*C. Intermediate Algebra (3) I, II**

A continuation of the study of algebra, including quadratic equations, binomial theorem, progressions and logarithms. A general education course in mathematics. Prerequisite: Mathematics A, or qualifying by examination.

**\*D. Trigonometry (3) I, II**

Plane trigonometry with special attention to the analytical aspects. A general education course in mathematics. Prerequisites: Mathematics B and C, or qualifying by examination.

**\*G. Mathematics for General Education (3) I, II**

Basic concepts of arithmetic, algebra, and geometry with applications. Recommended for students whose scores on the competency examination, while exempting them from Mathematics X, indicate a need for further training in mathematics. A general education course in mathematics. May not be used in the major or minor.

**S. Theory and Use of the Slide Rule (1) I, II**

Practice in performing the fundamental operations of the slide rule. Prerequisites: Math A and B, or equivalent.

**1. Algebra and Trigonometry (3) II**

Review of algebra and trigonometry. Further study of identities, graphs, solution of algebraic and trigonometric equations, determinants, and mathematical proofs. Prerequisite: Two years of high school algebra and trigonometry.

**\*3A. Analytic Geometry (3) I, II**

An integration of algebraic and geometric concepts, with emphasis on the straight line, conic sections, and coordinate transformations. May be counted as a general education course in mathematics. Prerequisite: Math D with a grade of C or better, or qualifying by examination.

**\*3B. First Course in Calculus (3) I, II**

Introduction to differential and integral calculus with applications. May be counted as a general education course in mathematics. Prerequisite: Math 3A with a grade of C or better.

**4A. Second Course in Calculus (3) I, II**

Differentiation, integration, and applications. Prerequisite: Mathematics 3B, with a grade of C or better.

**4B. Third Course in Calculus (3) I, II**

Infinite series, partial differentiation, successive integration and applications. Prerequisite: Math 4A, with grade of C or better. (Solid geometry is recommended.) Not open to students with credit for Math 117.

**\*7A. Mathematical Analysis (3) I**

Designed for students who do not intend to prepare for a professional career in physical science or in engineering. Consideration is given to the processes and applications of algebra and trigonometry. A general education course in mathematics. Prerequisite: High school algebra and plane geometry. Students with credit for Mathematics 1 will not receive credit for Mathematics 7A.

**\*7B. Mathematical Analysis (3) II**

A continuation of Mathematics 7A including the concepts and applications of analytic geometry and an introduction to the calculus. A general education course in mathematics. Prerequisite: Mathematics 7A. Students with credit for Mathematics 3B will not receive credit for Mathematics 7B.

**12. Elementary Statistics (3) II**

Tabular and graphical presentation, measures of central tendency and variability, analysis of times series, linear correlation coefficient. Applications from the fields of biology, economics, education, engineering and psychology. Prerequisite: Math A, or equivalent.

**Upper Division Courses****\*104. History of Mathematics (3) II**

History of mathematics down to early modern times. A general education course in mathematics.

**105. College Geometry (3) II**

A synthetic treatment of the points and lines associated with triangles and quadrilaterals, similarity, inversion, ruler and compass construction, etc. Highly recommended for all prospective teachers of high school geometry. Prerequisite: Mathematics 3B or 7B.

**106. Projective Geometry (3) I**

Concurrence of lines, collinearity of points and other properties of figures not altered by projections; construction and study of ellipses, hyperbolas, and parabolas by means of projections. Prerequisites: Mathematics 3B or 7B and permission of instructor.

**107. Non-Euclidean Geometry (3) I (Not offered 1956-57)**

History of attempts to prove the fifth postulate; emphasis on plane synthetic hyperbolic geometry; brief treatment of other types of non-Euclidean geometry. Prerequisite: Mathematics 3B or 7B.

**111. Theory of Algebraic Equations (3) II**

Determinants, complex numbers, and theory of algebraic equations. Prerequisite: Mathematics 3B or 7B.

**112. Analytic Geometry of Space (3) II**

The coordinate systems in space; lines, planes, and quadric surfaces; applications. Prerequisite: Mathematics 4A.

**117. Intermediate Calculus (3) I, II**

Essentially the same as Mathematics 4B. Additional special work for advanced students may be assigned. Prerequisite: Mathematics 4A, with a grade of C or better. Not open for credit to students with credit for Math 4B.

**118A. Advanced Mathematics for Engineering Students (3) I, II**

Selected topics from ordinary differential equations, with applications; hyperbolic, elliptic, Bessel and gamma functions, Fourier series and integrals, electromechanical analogies, the Laplace transform, and partial differential equations. Prerequisite: Mathematics 117, or its equivalent.

**118B. Advanced Mathematics for Engineering Students (3) I, II**

A continuation of Mathematics 118A. Prerequisite: Math 118A.

**119. Differential Equations (3) I**

Ordinary differential equations with applications to geometry, physics, and chemistry. Prerequisite: Mathematics 117, or its equivalent.

**121. Advanced Calculus (3) II**

Fundamental concepts and selected topics. Prerequisite: Mathematics 117, or its equivalent.

**124. Vector Analysis (3) I**

Vector algebra, differentiation of vectors, gradient, divergence, and curl. Applications to geometry and physics. Prerequisite: Mathematics 117, or its equivalent.

**134. Probability (3) II**

Definitions, computation of probability by enumeration of cases, discrete and continuous chance variables, density functions, moments, limit theorems, selected distributions. Prerequisite: Mathematics 117, or its equivalent.

**135. Numerical Mathematical Analysis (3) I**

Accuracy in numerical calculation; interpolation; curve fitting, alignment charts; graphical and numerical differentiation and integration; harmonic analysis. Prerequisite: Mathematics 4A.

**140A. Mathematical Statistics (3) I**

Graphical and arithmetical characterization of observed frequency distributions, moments, use of normal curve, curve fitting, correlation, etc. Prerequisite: Mathematics 117, or its equivalent.

**140B. Mathematical Statistics (3) II**

Theoretical discrete and continuous distributions, multiple and partial correlation, large and small sample theory including student's T, Chi-square, and the F distributions with applications. Prerequisite: Mathematics 140A.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**177. Quality Control (3) (Same course as Business Administration 139 and Engineering 177)**

Statistical techniques; tolerances and variants; standards; organization for inspection; inspection methods for raw materials, work in process, and finished products; control of inspection devices. Not open to students with credit for Business Administration 139 or Engineering 177. Prerequisites: Business Administration 134 and 135 or equivalent, and either Economics 140 or Mathematics 12.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses**

**200. Seminar (2 or 3) I, II**

An intensive study of one phase of mathematics, such as functions of a real variable, functions of a complex variable, partial differential equations, theory of numbers, matrices. May be repeated with new subject matter for additional credit.

**210A-210B. Mathematics of Chemistry and Physics (3-3) Year I**

(Same course as Chemistry 210A-210B or Physics 210A-210B)

An introduction to the mathematical processes which form a basis for advanced work in one of the physical sciences. First semester: selected topics introducing the student to the mathematical approach in the solution of scientific problems. Second semester: applications of mathematical principles to specific problems in chemistry and physics. Prerequisites: Graduate standing and acceptance into Master of Science degree program.

**290. Bibliography (1) I, II**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.



**296. Directed Field Experience (1-6)**

Meets the requirement of directed field experience for candidates for the master of science degree, but is not limited to candidates for the degree. Required in addition to the 30-unit requirement for the degree.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**299. Thesis or Project (3) I, II**

Guidance in the preparation of a project or thesis for the master's degree.

**MUSIC****IN THE DIVISION OF FINE ARTS****Major**

A *major in arts and sciences* is offered in *music* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses, except that nine units of music of courses in performance groups may be counted toward general education requirements in the area of literature, philosophy, and the arts. Students majoring in music are not required to complete a minor. Several plans of study are available with varying degrees of emphasis on performance, history and literature, creative activity, and teaching.

The music curricula are designed to fulfill the needs of all students: (1) those who have professional ambitions in music performance, or seek a foundation for graduate study leading to college or university teaching, (2) those who are preparing for one of the several state teaching credentials with music as either a major or minor, (3) those whose major professional interest is in another department and are seeking musical study as a minor, and (4) those who are interested in music as an elective study area for the enrichment of their cultural background.

**GENERAL BASIC REQUIREMENTS**

General basic requirements for the A.B. degree with a major in music (not the credential) are as follows:

1. Upon entering the department, each student is required to take an examination in piano for classification, and to commence on no less than four consecutive semesters of class or private piano study for credit.

2. Upon entering the department, each student is required to declare his major instrument (voice, piano, clarinet, etc.), take an examination thereon for classification, and continue the development of his performance ability through class or individual study for credit after admission to the program.

3. Appearance in at least one student recital during each semester in residence, according to departmental recital requirements.

4. As laboratory experience, participation in two performing groups each semester, beginning with the first semester and continuing for eight semesters, one of which must be a major group (chorus, choir, glee club, orchestra, or band) in which the major instrument or voice is regularly used.

**SPECIFIC REQUIREMENTS FOR THE MUSIC MAJOR**  
(Not the teaching credential)

<i>First Year</i>	<i>Units</i>	<i>Second Year</i>	<i>Units</i>
Music 9AB .....	6	Music 52AB .....	6
†Music 10AB .....	0-2	†Music 10CD .....	2
Music organization courses numbered 70-88 .....	4	Music 59AB .....	6
Major instrument .....	2	Music organization courses numbered 70-88 .....	4
*Health Education 21 .....	2	Major instrument .....	2
*Psychology 1 .....	3	*U. S. History, Constitution, California Government .....	6
*English 1 and Speech Arts 3 .....	5	*Literature or philosophy .....	3
*Social Science .....	3	*Physical Education .....	1
*Physical Education .....	1	Free electives .....	2
Free electives .....	4		
<b>Total .....</b>	<b>30</b>	<b>Total .....</b>	<b>32</b>

\* General education courses. Nine units of music organization courses may be counted as general education in the area of literature, philosophy, and the arts.

† May be waived in part or in full by examination.

<i>Third Year</i>	<i>Units</i>	<i>Fourth Year</i>	<i>Units</i>
Music 107 .....	3	Music 109A .....	2
Music 146BC .....	2	Major instrument .....	2
Four units selected from Music 102AB, 103AB .....	4	Music organization courses numbered 170-188 .....	4
Major instrument .....	2	Units from one of the fields of emphasis listed below.....	4-6
Music organization courses numbered 170-188 .....	4	(a) <i>Performance</i> : Four units from Music 109B, 199.	
*Natural Science .....	9	(b) <i>Music History and Literature</i> : Six units from Music 106A, 109B, 199.	
†Electives .....	8	(c) <i>Composition</i> : Six units from Music 106A, 109B, 199.	
Total .....	32	General education electives.....	3
		†Electives .....	13-15
		Total .....	30

\* General education courses. Nine units of music organization courses may be counted as general education in the area of literature, philosophy, and the arts.

† In addition to the upper division courses in the major, the student must have a sufficient number of upper division units to meet the minimum of 40 required for the A.B. degree.

*Performance*: Students emphasizing performance must appear in a joint recital during the junior year and must present a solo recital during the senior year. The student must pass an audition of the compositions to be performed before the music faculty preceding the recitals.

*Music History and Literature*: During his senior year, the student emphasizing history and literature is required to organize, prepare program notes and present two recitals consisting of recorded or "live" performances. Each will deal with representative works of a certain period or composer or with certain periods, composers, or styles to be compared. Such students must pass a preliminary audition of the material to be presented before the music faculty at least one month in advance of each performance.

*Creative Activity and Composition*: The student emphasizing creative activity and composition is required to present a concert of his compositions during the senior year and present the scores of works to be performed to the music faculty one month in advance of the performance.

### Minor

A *minor in arts and sciences* is offered in *music*. General basic requirements for the minor are as follows: (1) Demonstration of vocal or instrumental performing ability before admission to the minor program may be granted; (2) as laboratory experience participation in one music performance group each semester for seven semesters. (In special cases this requirement may be waived by the Chairman of the Music Department.) Lower division: Music 9A, 10A-10B-10C-10D; six units selected from 9B, 52A-52B, and 59A; and four units of performance group courses selected from courses numbered 70 to 88. Upper division: Six units selected from Music 102A-102B and 103A-103B; and three units of music performance group courses selected from courses numbered 170 to 188.

### The Master's Degree

The master of arts degree for teaching service is offered with a major in music. See section of this catalog entitled "The Master's Degree."

### THE SPECIAL SECONDARY CREDENTIAL IN MUSIC

A *teaching major in music* is offered for the special secondary credential and for the general secondary credential. For statement of requirements, refer to these credentials.

### ELECTIVES IN MUSIC

The Music Department offers certain courses which fulfill the needs of students who do not have music as a major or minor subject but who are interested in music as an elective study area for the enrichment of their cultural background. Courses

particularly suited for these needs are Aesthetics 2 and 102 and the music courses numbered 70 to 88 and from 170 to 188; such courses are designated as general education courses and may be taken as partial fulfillment of the literature, philosophy, and the arts requirement in general education.

Some students will be musically prepared to elect courses in music which may or may not be included in the general education group. Enrollment by qualified students who wish to elect these courses is encouraged.

#### Lower Division Courses

#### X. Music Fundamentals (3) I, II

Elementary sight singing and ear training, keyboard harmony, traditional study of intervals, triads, tonality, scales, basic rhythms, and elements of form. Not counted as a part of the music major or minor.

#### \*7A. Musicianship—For General Elementary Teachers (3) I, II

Elementary music theory and skills including notation, meter, rhythm, scales, intervals, triads, sight singing, ear training, dictation, elementary keyboard facility and other rudiments. State-adopted elementary music texts used. A general elementary credential requirement. Open only to candidates for the general elementary credential. A general education course in literature, philosophy, and the arts.

#### 7B. Music Materials for the Elementary School (3) I, II

Study of all phases of elementary school music: singing, listening, reading, creative music, instruments, repertoire of songs and records, music projects. Required of all general elementary credential candidates. Prerequisite: Music 7A or consent of instructor.

#### 9A. Elementary Harmony (3) I, II

Sight singing and ear training, keyboard harmony, traditional diatonic harmony, basic four-voice writing, analysis, the smaller homophonic forms. Prerequisites: Music X or competency in music fundamentals; adequate keyboard facility.

#### 9B. Intermediate Harmony and Two-part Counterpoint (3) I, II

Continuation of Music 9A; harmonic alteration, further study of form, introducing variational treatment. Two-voice counterpoint based on baroque polyphony, simple chorale figuration, and the invention. Prerequisite: Music 9A.

#### \*10A-10B. Piano—Elementary Class Instruction (1-1) I, II

Basic keyboard experience through study of music reading, notation, scales, chords, and sight-reading covering a repertoire of beginning and intermediate songs and piano literature, with emphasis on keyboard harmony. Required for the kindergarten-primary credential and music majors and minors. A general education course in literature, philosophy, and the arts.

#### 10C-10D. Piano—Elementary Class Instruction (1-1) I, II

Continuation of Music 10A-10B.

#### 11ABCD. Piano—Intermediate Class Instruction (1-1-1-1) I, II

Materials and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission.

#### 15A. Voice—Elementary Class Instruction (1) I, II

A class for beginners in the vocal field taking up the problems of breath control, tone placement, articulation and enunciation. Frequent classroom performance of simple songs.

#### 15B. Class Voice—Continuation First Semester Voice (1) I, II

Study of more advanced songs with attention being given to interpretation, as well as continued work on tone, articulation and placement. Frequent performance before class required. Prerequisite: Music 15A or equivalent.

#### 16ABCD. Voice—Intermediate Class Instruction (1-1-1-1) I, II

Materials and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission.



**20AB. Strings—Elementary Class Instruction (1-1) I, II**

Open to all students but primarily for those whose major instrument is not one of the stringed instruments and who are preparing for a teaching credential in music. Not open to students with credit for Music 120A-120B.

**21ABCD. Strings—Intermediate Class Instruction (1-1-1-1) I, II**

Material and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission. Sections are offered in violin, viola, cello, bass.

**25A. Clarinet—Elementary Class Instruction (1) I, II**

Open to all students but primarily for those whose major instrument is not clarinet and who are preparing for a teaching credential in music. Not open to students with credit for Music 125A.

**25B. Oboe, Flute, and Bassoon—Elementary Class Instruction (1) I, II**

Open to all students but primarily for those whose major instrument is not flute, oboe, or bassoon and who are preparing for a teaching credential in music. Not open to students with credit for Music 125B.

**26ABCD. Woodwinds—Intermediate Class Instruction (1-1-1-1) I, II**

Materials and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission. Sections are offered in flute, oboe, clarinet, and bassoon.

**30AB. Brass—Elementary Class Instruction (1-1) I, II**

Open to all students but primarily for those whose major instrument is not one of the brass instruments and who are preparing for a teaching credential in music. Not open to students with credit for Music 130A-130B.

**31ABCD. Brass—Intermediate Class Instruction (1-1-1-1) I, II**

Materials and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission. Sections are offered in horn, trumpet, trombone, tuba, and baritone.

**35. Percussion—Elementary Class Instruction (1) I, II**

Open to all students but primarily for those who are preparing for a teaching credential in music. Not open to students with credit for Music 135.

**50ABCD. Intermediate Individual Study (1-1-1-1) I, II**

For the teaching credential performance requirement or for the requirements of the major emphasis curricula leading to the A.B. degree with a major in music. See explanation below for conditions under which credit may be given for music study under private instructors.

Piano	Oboe	French Horn	Percussion
Organ	Clarinet	Trumpet	Violin
Voice	Saxophone	Trombone	Viola
Flute	Bassoon	Baritone Horn	Cello
		Tuba	Contrabass

**52A-52B. History of Music (3-3) Year, I**

Detailed study of chronological development of musical art and forms from the Middle Ages to the present. Analytical score study and assigned recordings. Familiarity with musicological resources through individual assignments. Prerequisite: Music X, or equivalent, and permission of instructor. (Formerly Music 101A-101B.)

**53. Opera Technique (2) I, II**

Training in the interpretation and characterization of light and grand opera. Specific work in coordination of operatic ensemble. Formerly Music 31.

**59A. Advanced Harmony and Three-part Counterpoint (3) I, II**

Higher harmonic alteration, analysis and writing of the intermediate forms based on classical and romantic idioms. Baroque polyphony in three-voice technique, elaborate chorale figuration, the suite, the fughetta. Prerequisite: Music 9B.

**59B. Modern Harmonic Practice and Four-part Counterpoint (3) I, II**

Modern idioms with compositional experience, with emphasis upon twentieth century styles. Continuation of baroque polyphony into four-voice technique; writing of canon and fugue. Prerequisite: Music 59A.

**PERFORMANCE ORGANIZATION COURSES**

The performance organization courses are devoted to the study in detail and the public performance of a wide range of representative literature for each type of ensemble and designed to provide students with practical experience in rehearsal techniques. Courses preceded by an asterisk (\*) are general education courses in literature, philosophy, and the arts, unless used in the major (see the music major for specific information).

**\*70A-70B. Chamber Music (1-1) I, II**

Sections for string, woodwind, brass, piano, and mixed ensemble groups. Permission of the instructor required.

**70C-70D. Chamber Music (1-1) I, II**

Continuation of Music 70A-70B.

**72A. Beginning Instrumental Ensemble (½) I, II**

Open to all instrumental students. Group performance of simple orchestral and band scores. Prerequisite: Music 20A, 25A, 30A, or equivalents, one or more.

**72B. Intermediate Instrumental Ensemble (½) I, II**

Group performance of orchestral and band scores of more advanced grade. Materials covered will prepare the student for minor parts in either the symphony orchestra or the symphony band. Prerequisites: Music 72A or equivalent.

**\*75ABCD. Symphony and Marching Band (2-2-2-2) I, II**

Permission of the instructor required.

**\*80ABCD. Symphony Orchestra (1-1-1-1) I, II**

Permission of the instructor required.

**\*85ABCD. Concert Choir (1-1-1-1) I, II**

Permission of the instructor required.

**\*86ABCD. Treble Clef (1-1-1-1) I, II**

Permission of the instructor required.

**\*87ABCD. Men's Glee Club (1-1-1-1) I, II**

Permission of the instructor required.

**\*88ABCD. College Chorus (1-1-1-1) I, II**

Open to all persons interested in performing oratorio, cantata, opera, and the extended choral works. No entrance auditions are required. No prerequisites.

**Upper Division Courses**

(For description of courses in the field of music appreciation, see Aesthetics.)

**102A. Chamber Music Literature (2) I**

Instrumental ensemble repertoire, including all ensemble combinations from sixteenth to twentieth centuries. Analysis by use of scores and recordings. Prerequisite: Music 52A-52B.

**102B. Keyboard Literature (2) II**

Piano, organ, and other clavier literature from the sixteenth to twentieth centuries. Recordings, scores, and guest performers. Prerequisite: Music 52A-52B.

**103A. Symphonic Literature (2) I**

A study of the symphony and symphonic poem; the evolution of their growth; an analysis with scores of the structure, harmonic content, and instrumentation of representative works of each period; an examination of their meaning and place in the history of music. Prerequisite: Music 52A-52B.

**103B. Song Literature (2) II**

Historical and musical development of the art song and of the folk song. Works of representative European and American composers in these media. Recordings and scores. Prerequisite: Music 52A-52B.

**106A-106B. Sixteenth Century Counterpoint (2-2) I, II**

Contrapuntal techniques of the sixteenth century, as expressed in the works of Palestrina, Lassus, and Ingegneri. Compositional exercise in setting parts of the Mass. Prerequisite: Music 59B.

**107. Composition (3) I, II**

Original writing in the larger homophonic and polyphonic forms, for various media. Opportunity for recital performance of original works. Prerequisite: Music 59B.

**109A-109B. Instrumentation and Arranging (2-2) Year, I**

Arranging of music for full orchestra. Selected works of students to be performed by standard orchestras. Prerequisites: Music 59B; 109A for 109B.

**111ABCD. Piano—Intermediate Class Instruction (1-1-1-1) I, II**

Materials and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission.

**112ABCD. Piano—Advanced Class Instruction (1-1-1-1) I, II**

Materials and techniques of the advanced level are studied in detail. Satisfactory audition before the instructor is required for admission.

**116ABCD. Voice—Intermediate Class Instruction (1-1-1-1) I, II**

Materials and techniques of the intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission.

**117ABCD. Voice—Advanced Voice Instruction (1-1-1-1) I, II**

Materials and techniques of the advanced level are studied in detail. Satisfactory audition before the instructor is required for admission.

**118-S. Workshop in Choral Art (6) Summer**

An integrated course in choral and chamber music to be performed by workshop participants with the College Chorus and the San Diego Symphony Orchestra and in chamber music concerts. Development of analytical technique; study of vocal technique, of the larger forms, and of styles, including performing practices of the baroque and later periods. May be taken twice for credit. Prerequisite: Permission of instructors.

**120A-120B. Strings—Elementary Class Instruction (1-1) I, II**

Open to all students but primarily for those whose major instrument is not one of the stringed instruments and who are preparing for a teaching credential in music. Not open to students with credit for Music 20A-20B.

**121ABCD. Strings—Intermediate Class Instruction (1-1-1-1) I, II**

Materials and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission. Sections are offered in violin, viola, cello, and bass.

**122ABCD. Strings—Advanced Class Instruction (1-1-1-1) I, II**

Repertoire includes study of standard orchestral parts, solos, sonatas, suites and concerti. Satisfactory auditions before the instructor are required for admission. Sections are offered in violin, viola, cello, and bass.



**123-S. Workshop in Instrumental Techniques and Chamber Music for String, Woodwind, and Brass Instruments (2) Summer**

The analysis and interpretation of the literature for each instrument, with performance in various ensemble units; both group and individual instruction in class, under performing professional musicians. Prerequisite: Permission of instructors.

**125A. Clarinet—Elementary Class Instruction (1) I, II**

Open to all students but primarily for those whose major instrument is not clarinet and who are preparing for a teaching credential in music. Not open to students with credit for Music 25A.

**125B. Oboe, Flute, and Bassoon—Elementary Class Instruction (1) I, II**

Open to all students but primarily for those whose major instrument is not flute, oboe, or bassoon and who are preparing for a teaching credential in music. Not open to students with credit for Music 25B.

**126ABCD. Woodwinds—Intermediate Class Instruction (1-1-1-1) I, II**

Materials and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission. Sections are offered in flute, oboe, clarinet, and bassoon.

**127ABCD. Woodwinds—Advanced Class Instruction (1-1-1-1) I, II**

Repertoire includes study of standard orchestral parts, solos, sonatas, suites and concerti. Satisfactory auditions before the instructor are required for admission. Sections are offered in flute, oboe, clarinet, and bassoon.

**130A-130B. Brass—Elementary Class Instruction (1-1) I, II**

Open to all students but primarily for those whose major instrument is not one of the brass instruments and who are preparing for a teaching credential in music. Not open to students with credit for Music 30A-30B.

**131ABCD. Brass—Intermediate Class Instruction (1-1-1-1) I, II**

Materials and techniques of intermediate level are studied in detail. Satisfactory audition before the instructor is required for admission. Sections are offered in horn, trumpet, trombone, tuba, and baritone.

**132ABCD. Brass—Advanced Class Instruction (1-1-1-1) I, II**

Repertoire includes study of standard orchestral parts, solos, sonatas, suites and concerti. Satisfactory auditions before the instructor are required for admission. Sections are offered in horn, trumpet, trombone, tuba, and baritone.

**135. Percussion—Elementary Class Instruction (1) I, II**

Open to all students but primarily for those who are preparing for a teaching credential in music. Not open to students with credit for Music 35.

**141. Methods in Teaching Piano (3) Summer**

Teaching of beginning and intermediate piano. Survey of materials available for child and adult classes. Special consideration of the problems of the adult beginner. Supervised teaching of beginning students in individual lessons and class groups.

**142. Survey of Harmony and Musical Form (2) (Irregular)**

A review of diatonic and chromatic harmony, modulation and musical form. The material covered will serve as refresher study for the Colleague Examination under the California Plan of the Music Teachers Association of California. Not open to music majors or minors.

**146A. Fundamentals of Conducting (1) I**

Elements of baton technique and development of basic skills common to choral and instrumental conducting.

**146B. Instrumental Conducting (1) II**

Study of orchestra and band scores of graduated levels of advancement. The class will prepare and conduct instrumental works in public performances. Prerequisite: Music 146A.

**146C. Choral Conducting (1) I**

Representative literature and techniques for choral organizations will be studied and performed. Practical experience in typical conducting situations will be emphasized in various grade levels. Prerequisite: Music 146A.

**150ABCD. Advanced Individual Study (1-1-1-1) I, II**

For the teaching credential performance requirement or for the requirements of the major emphasis curricula leading to the A.B. degree with a major in music. See explanation below for conditions under which credit may be given for music study under private instructors.

Piano	Oboe	French horn	Percussion
Organ	Clarinet	Trumpet	Violin
Voice	Saxophone	Trombone	Viola
Flute	Bassoon	Baritone horn	Cello
		Tuba	Contrabass

**153. Opera Technique (2) I, II**

Training in interpretation and characterization of light and grand opera. Specific work in coordination of opera ensemble.

**166. Honors Course I, II (Credit to be arranged)**

To be arranged after consultation with the chairman of the department. Refer to the Honors Program.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of department chairman.

**PERFORMANCE ORGANIZATION COURSES**

The performance group courses are devoted to the study in detail and the public performance of a wide range of representative literature for each type of ensemble and designed to provide students with practical experience in rehearsal techniques. Courses preceded by an asterisk (\*) are general education courses in literature, philosophy, and the arts, unless used in the major (see the music major for specific information).

**\*170A-170B. Chamber Music (1-1) I, II**

Sections for string, woodwind, brass and piano ensemble groups. Permission of the instructor required.

**170C-170D. Chamber Music (1-1) I, II**

Continuation of Music 170A-170B.

**172A. Beginning Instrumental Ensemble (½) I, II**

Open to all instrumental students. Group performance of simple orchestral parts and band scores. Prerequisites: Music 20A, 25A, 30A, or equivalents, one or more.

**172B. Intermediate Instrumental Ensemble (½) I, II**

Group performance of orchestral and band scores of more advanced grade. Materials covered will prepare the student for minor parts in either the symphony orchestra or the symphony band. Prerequisites: Music 172A or equivalent.

**\*175ABCD. Symphony and Marching Band (2-2-2-2) I, II**

Permission of the instructor required.

**\*180ABCD. Symphony Orchestra (1-1-1-1) I, II**

Permission of the instructor required.

**\*185ABCD. Concert Choir (1-1-1-1) I, II**

Permission of the instructor required.

**\*186ABCD. Treble Clef (1-1-1-1) I, II**

Permission of the instructor required.

**\*187ABCD. Men's Glee Club (1-1-1-1)**

Permission of the instructor required.

**\*188ABCD. College Chorus (1-1-1-1) I, II**

Open to all persons interested in performing oratorio, cantata, opera, and the extended choral works. No entrance auditions are required. No prerequisites.

**Graduate Courses****200A-200B. Special Problems in Music (2-2) Year, I, II**

A graduate course in which students may carry out projects in various fields of music under the direction of faculty members who are specialists in the field chosen. Students registering for this course must apply for work within a certain field after conference with the music faculty.

**203A-203B. Musicology (2-2) I, II**

Problems and methods of research in aesthetics, acoustics, theory, composition, music history, and related fields. Source materials, bibliography. Comparative investigations of musical systems. Analytical and structural studies. Completion of written project. Prerequisites: graduate standing and permission of instructor.

**206A-206B. Composition (2-2) I, II**

Advanced composition for various media, development of original idiom, intensive study of modern music. Public performance of an extended original work as a final project. Prerequisites: graduate standing and permission of the instructor.

**207ABC. Seminar in Choral Art (6-6-6) Summer**

A study of choral and chamber music performed by seminar participants in the College Chorus, the San Diego Symphony Orchestra, and Chamber Music Concerts. Development of analytical technique; study of vocal techniques, of the larger forms, and of styles, including performing practices of the baroque and later periods. Prerequisites: graduate standing and permission of the instructor. Total credit for Music 118-S and Music 207ABC limited to 18 units.

**290. Bibliography (1) I, II**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis or Project (3) I, II**

Guidance in the preparation of a project or thesis for the master's degree.

**Conditions Under Which Credit May Be Given for Music Study  
Under Private Instructors**

Credit may be allowed for private instruction in music under the following conditions:

1. The applicant for such credit must be either a regularly enrolled student in the Music Department of the college (that is, a music major or minor), or he must have as a prerequisite or be taking concurrently with his private study, three units chosen from these specific courses: Music X, 7A, Aesthetics 2, or 102.
2. The instructor giving such private work must be approved by the Music Department. All private work and names of all such teachers must be registered in the office of the Music Department chairman at the beginning of the semester.
3. Under no circumstances may a student change teachers in the middle of a semester without first notifying the chairman of the Music Department and securing his permission for this change.
4. In case of first semester of private study in San Diego State College, the student is required to take a placement examination conducted by the Music Department faculty at the beginning of the semester, which will show the status of the student at the beginning of his work.
5. Students who have dropped out of school, or have stopped taking Applied Music for credit for one semester or more, upon the resumption of that instruction for credit are required to take the placement examination.



6. Evidence that the standards of the Music Department have been met will be shown by an examination conducted by the Music Department faculty at the end of the semester.

7. Ten clock hours of lessons and adequate preparation to pass the Applied Music examinations and the curriculum requirements of the department are required for one unit of credit.

## NURSING

### IN THE DIVISION OF LIFE SCIENCES

A *major in arts and sciences* is offered in *nursing* for the B.S. degree. Courses in the major are in addition to 45 units in general education. A minor is not required.

This program is a four-year curriculum open to students who are admitted to the college in regular status and who are also admitted to the Department of Nursing. This program is not open to students who hold the R.N. license.

*Specific Requirements for the Major.* Lower division: Nursing 1, 20A-20B, 32, 33A-33B, 34A-34B; Bacteriology 1; Chemistry 2A-2B; Physics 6; Zoology 8A-8B; Home Economics 4A-4B; Sociology 50 and 51. Upper division: Nursing 112, 114, 115, 116, 118, 122, 124, 125, 130; Health Education 190; Psychology 106, 131; Sociology 135, 145, 170; History 172A-172B.

*General Education Requirements.* Two units in physical education activities; pattern credit allowed for Health Education 21; Speech Arts 3; Psychology 1; English 1; English 2 or 3, and three additional units of general education electives in the area of Literature, Philosophy, and the Arts; 12 units of general education credit allowed in the social sciences; 12 units of general education credit allowed in the natural sciences; and general education credit in Family Life Education for Sociology 135. (Total 45 units.)

### OUTLINE OF COURSES

The following outline of courses, subject to individual adjustments to a small degree, is included as a guide to students in the nursing curriculum:

First Year			
First Semester	Units	Second Semester	Units
English 1 .....	3	English 2 or 3 .....	3
Chemistry 2A .....	3	Chemistry 2B .....	3
Zoology 8A .....	3	Zoology 8B .....	3
Nursing 1 .....	1	Home Economics 4A-4B .....	3
Psychology 1 .....	3	Nursing 20A .....	4
Speech Arts 3 .....	2	Physical Education .....	$\frac{1}{2}$
Physical Education .....	$\frac{1}{2}$		
	<hr/>		<hr/>
	15 $\frac{1}{2}$		16 $\frac{1}{2}$
Second Year			
First Semester	Units	Second Semester	Units
Bacteriology 1 .....	4	Physics 6 .....	3
Sociology 50 .....	3	Sociology 51 .....	3
Nursing 20B .....	3	Nursing 32 .....	2
Nursing 33A .....	3	Nursing 33B .....	4
Nursing 34A .....	3	Nursing 34B .....	4
Physical Education .....	$\frac{1}{2}$	Physical Education .....	$\frac{1}{2}$
	<hr/>		<hr/>
	16 $\frac{1}{2}$		16 $\frac{1}{2}$
Third Year			
First Semester	Units	Second Semester	Units
Psychology 106 .....	3	Sociology 145 .....	3
Sociology 135 .....	3	Nursing 114 .....	5
Nursing 112 .....	5	Nursing 116 .....	4
Nursing 115 .....	3	Elective .....	3
Nursing 130 .....	2		
	<hr/>		<hr/>
	16		15

<b>Fourth Year</b>			
<i>First Semester</i>	<i>Units</i>	<i>Second Semester</i>	<i>Units</i>
History 172A .....	3	History 172B .....	3
Psychology 131 .....	3	Health Education 190 .....	3
Sociology 170 .....	3	Nursing 122 .....	3
Nursing 118 .....	5	Nursing 124 .....	2
Elective .....	2	Nursing 125 .....	5
	<hr/> 16		<hr/> 16

#### **Lower Division Courses**

##### **1. Introduction to Professional Relationships (1) I**

An introduction and orientation to the profession of nursing. Considers ethical principles, the nurses' code, and professional problems which will face the student nurse.

##### **20A. Nursing Arts (4) II**

Individual hygiene and family health; orientation to the hospital as a community health agency and to the responsibilities of a nurse in providing good patient care. Prerequisites: Zoology 8A, Psychology 1, and Nursing 1.

##### **20B. Nursing Arts (3) I**

Introduction to the elements of observation and the records involved in patient care, and to the application of bacteriologic principles of asepsis and disinfection. Prerequisite: Nursing 20A.

##### **32. Pharmacology (2) II**

Presentation of pharmacologic agents according to actions, uses, methods of preparation and administration. Vocabulary for reporting patient reactions to medication. Hazards of self-medication, legislation controlling use of drugs.

##### **33A-33B. Medical Nursing (3-4) Year, I**

Theory and practice of nursing care for the individual patient, and of medical therapy. Problems in total patient care. Prerequisite: Nursing 20B. Nursing 33A is a prerequisite for 33B. (Formerly Nursing 30A).

##### **34A-34B. Surgical Nursing (3-4) Year, I**

Theory and practice of nursing care for the individual patient, and of surgical therapy. Problems in total patient care. Prerequisite: Nursing 20B. Nursing 34A is a prerequisite for 34B. (Formerly Nursing 30B).

#### **Upper Division Courses**

Courses numbered under 150 not open to graduate nurses; courses numbered 150 and above open only to graduate nurses.

##### **112. Obstetrical Nursing (5) I**

Study of care and treatment of the obstetric patient and newborn infant.

##### **114. Pediatric Nursing (5) II**

Nursing care of infants and children; prevention and control of disease; and instruction of parents. Prerequisite: Nursing 112.

##### **115. Advanced Surgical Nursing (3) I**

Methods and principles of surgical nursing in selected clinical areas. Emphasis on specialized therapeutic techniques. Two lectures and six hours of laboratory per week. Prerequisite: Nursing 34B.

##### **116. Communicable Disease Nursing (4) II**

History, occurrence, pathology, care and treatment of communicable diseases; emphasis on tuberculosis.

##### **118. Psychiatric Nursing (5) I**

Major concepts of psychiatric nursing and mental health that are involved in care of the mentally ill; therapies and rehabilitation measures.

**122. Advanced Clinical Nursing (3) II**

Principles in planning patient care as practiced by an individual and by a team leader. Nine hours of laboratory per week. Prerequisites: Nursing 33B and 115.

**124. Professional Relationship (2) II**

A survey of the fields of nursing responsibilities of the graduate nurse in nursing service and education. Consideration of legal, social, economic aspects of nursing. Prerequisite: Nursing 130.

**125. Public Health Nursing (5) II**

Principles of public health nursing with practice in community health agencies, out-patient clinics, schools and homes. Two lectures and nine hours of laboratory per week. Prerequisite: Nursing 33B, 34B, and Nursing 116.

**130. History of Nursing (2) II**

Nursing from earliest times; emphasis on the place of nursing in world history and the present social order.

**150. Trends in Nursing (2) II**

A survey of recent developments and current problems in nursing service and education. Prerequisite: R.N. certificate.

**151. Ward Management (3) I**

Problems of organization, personnel, and operation of a hospital unit, ward or clinic. Two lectures and one three-hour laboratory per week. Prerequisite: R.N. certificate.

**152. In-service Instruction (2) II**

Application of the principles and methods of teaching in the various clinical services. Prerequisite: R.N. certificate.

**154. Legal Aspects of Nursing (2) I**

Legal responsibilities of graduate nurses. Discussion and review of legal interpretations in selected cases.

## OCEANOGRAPHY

## IN THE DIVISION OF LIFE SCIENCES

## Upper Division Courses

**\*100. The Oceans (2) I**

Biological and physical aspects of the oceans and their significance to man; problems of modern oceanography. One unit to apply as life science and one unit as physical science for general education in the area of natural sciences. Prerequisites: Introductory courses in life and physical sciences.

## PERSONNEL MANAGEMENT

IN THE DIVISIONS OF BUSINESS ADMINISTRATION,  
LIFE SCIENCES, SOCIAL SCIENCES

A student desiring to prepare for personnel management may follow one of the three plans outlined below. Emphasis is placed on different areas, depending upon the objective. A student preparing for graduate work in personnel management should consult with the adviser in his selected field in choice and arrangement of courses. These majors described below lead to the A.B. degree in arts and sciences. The major is in addition to 45 units in general education courses.

**Major in Personnel Management***In the Division of Business Administration*

*Personnel Management.* This curriculum is offered by the Department of Management as a major for the A.B. degree. The major consists of work in three fields: business administration, economics, and psychology. Lower division requirements: Business Administration 1A and 80; Economics 1A-1B; Psychology 1 (which may



be counted toward general education requirements) and Psychology 6. Upper division requirements: 36 upper division units to include the following: Business Administration 134, 144, 146, 147; Economics 150, 151, 152; Psychology 104A, 105, 121, 131, 152. Four additional upper division units must be completed to meet the minimum of 40 upper division units required for the A.B. degree.

### **Major in Public Personnel Management**

#### *In the Division of Social Sciences*

*Public Personnel Management.* This curriculum is offered by the Department of Political Science. The curriculum includes work in three fields: political science, economics, and psychology. Lower division requirements: Political Science 71A-71B, Economics 1A-1B, Psychology 1 (which may be counted toward general education requirements) and Psychology 6. Upper division requirements: Political Science 140A-140B, 144, 145, 146, 155, 198; Economics 150, 151, 185; Psychology 104A, 105, 121, 131, 152 (37 units). Another political science course may be substituted for Political Science 198 on the basis of individual counseling. Three additional upper division units of electives must be completed to meet the minimum of 40 upper division units required for the A.B. degree. It is recommended that these units and additional electives be chosen from the following: Business Administration 134; Economics 131; Political Science 142, 143.

### **Major in Pre-Industrial and Personnel Psychology**

#### *In the Division of Life Sciences*

*Pre-Industrial and Personnel Psychology.* This curriculum is offered by the Department of Psychology as a major in psychology. For details, refer to psychology in this section of the catalog: Announcement of Courses.

### **The Master's Degree**

The master of arts degree is offered in Personnel Supervision and Training. See section of this catalog entitled "The Master's Degree."

## **PHILOSOPHY**

### **IN THE DIVISION OF HUMANITIES**

#### **Major**

A *major in arts and sciences* is offered in *philosophy* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: nine units in philosophy, including Philosophy 20. Upper division requirements: 24 upper division units in philosophy, or 18 units in philosophy and six units selected from related fields with the approval of the departmental adviser. A minor is not required.

#### **Minor**

A *minor in arts and sciences* is offered in philosophy. The minor consists of 15 to 22 units in philosophy, nine units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in philosophy.

#### **Lower Division Courses**

##### **\*1A. Introduction to Philosophy (3) I, II**

The place of philosophy in intelligent living. The methods, values, and areas of philosophical inquiry. Through discussion procedures, each student is encouraged to think independently on issues in ethics and religion. A general education course in literature, philosophy, and the arts.

##### **\*1B. Introduction to Philosophy (3) I, II**

The nature of philosophical inquiry as applied to problems of knowledge and reality. Through discussion procedures, the student has opportunity and is encouraged to formulate his own tentative conclusions. A general education course in literature, philosophy, and the arts. Prerequisite: Philosophy 1A.

**\*3A-3B. History of Philosophy (3-3) Year, I**

The development of the major concepts of philosophers in the western tradition. Relations of philosophy to science, art, religion, and social and political conditions. 3A covers the ancient and medieval period, 3B the modern. 3A is not prerequisite for 3B. A general education course in literature, philosophy, and the arts.

**20. Logic (3) I**

The use of logic in science and practical life. Analysis of fallacies. Logic and language. Formation and validation of hypotheses. Interpretations of probability. The logic of experimentation.

**Upper Division Courses****\*101. Contemporary Philosophy (3) II**

The major philosophical issues, movements, and figures in American and European philosophy of the twentieth century. A general education course in literature, philosophy, and the arts. Prerequisite: three units selected from Philosophy 1A, 1B, 3A, or 3B.

**\*111A-111B. Theory of the State (3-3) Year, I**  
(Same course as Political Science 111A-111B)

The nature of the state, its organization and activities, and its relation to the individual and to other states. A general education course in literature, philosophy, and the arts. Not open to students with credit for Political Science 111A-111B.

**121. Deductive Logic (3) II (Offered in 1956-57 and alternate years)**

Definition, classification, and division. The forms of reasoning. Analysis of propositions. Immediate inference. The syllogism. Dilemmas. Modern symbolic logic.

**128. Theory of Ethics (3) I**

A study of significant and typical value theories and systems and of the concrete problems such theories seek to explain. The emphasis will be placed on moral values. The student will be encouraged to examine critically his own system of values.

**\*129. Social Ethics (3) II**

Ethical issues of contemporary life. Individualism vs. collectivism; democracy vs. dictatorship; ethical problems arising in law, medicine, business, government, and interpersonal relationships. A general education course in literature, philosophy, and the arts.

**\*135. Philosophy of Religion (3) II**

An impartial survey of religious thought and practice in the major world religions; exploration of issues raised by the history, psychology, and sociology of religion. A general education course in literature, philosophy, and the arts.

**\*136. Philosophy of Art (3) II**

The nature of esthetic experience. The principal theories of art, both traditional and contemporary, are studied at length, both in relation to actual artistic production and to the role of art in society. A general education course in literature, philosophy, and the arts.

**137. Philosophy of Science (3) I (Offered in 1956-57 and alternate years)**

A critical examination of the basic concepts and methods underlying contemporary scientific thought. Contributions of the special sciences to a view of the universe as a whole. Prerequisite: three lower division units in philosophy.

**162. Continental Rationalism (3) I (Offered in 1957-58 and alternate years)**

The origins, content, and contemporary significance of the rationalistic tradition, with reference primarily to the philosophies of Descartes, Spinoza, and Leibniz.

**163. British Empiricism (3) II**

The origins, content, and contemporary significance of the empirical tradition, with reference primarily to the philosophies of Locke, Berkeley, and Hume.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

## PHYSICAL EDUCATION

### IN THE DIVISION OF PHYSICAL EDUCATION, HEALTH EDUCATION AND RECREATION

#### Major

A *major in arts and sciences* is offered in *physical education* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. A minor in a field other than physical education is required.

*Major for Men:* Lower division requirements: Two units of physical education activity courses (may be counted in general education); Physical Education 53, 63, 64, 72; Zoology 8A-8B. Upper division requirements: 26 units to include seven units from physical education courses numbered 141 to 148, inclusive; Physical Education 167, 168, 169, 170A or 170B; and eight units selected from courses in health, physical education, or recreation.

*Major for Women:* Lower division requirements: Four units of physical education activity courses to include Physical Education 1A, 2A-2B, 3A-3B, 5A-5B and 6 (two of these units may be counted as general education); Physical Education 53, 72, and Zoology 8A. Upper division requirements: 26 upper division units to include Physical Education 151, 156A-156B, 160, 167, 168, 170A or 170B; and nine units selected from courses in health, physical education, or recreation.

A *teaching major* is offered in *physical education* for the general secondary and special secondary school credentials. For statement of requirements, refer to these credentials.

#### Minor

A *minor in arts and sciences* is offered in *physical education*. The minor consists of 15 to 22 units in physical education, nine units of which must be in courses carrying upper division credit. The minor should be planned in consultation with the department chairman.

A *teaching minor* is offered in *physical education* for the general secondary, general elementary, and kindergarten primary credentials. For statement of requirements, refer to these credentials.

#### The Master's Degree

The master of arts degree for teaching service is offered with a major in physical education. See section of this catalog entitled "The Master's Degree."

#### Required Activities

All lower division students must elect one or more activity courses each semester. Two units of activity credit must be offered for graduation, but no more than one activity course in any one semester may be counted toward this requirement. Students carrying fewer than 12 units during any semester may obtain permission from the Dean of Instruction to postpone taking physical education, but may not be exempted therefrom. No permanent excuses from required activity courses will be granted. The college physician, in conjunction with the chairman of the department, will consider stringent cases on an individual basis and make recommendations.

A health history record and chest X-ray are required of each student entering college. Individually adapted physical education classes to care for special needs are offered. The content of the required courses is planned to give each student an opportunity to participate in many activities of carry-over value, developmental nature, and recreational interest. An opportunity is afforded for students to participate in competitive sports and intramural programs.

#### MEN'S DEPARTMENT

Freshmen are required to choose from courses numbered 1-10. Sophomores and upper division students may choose from all courses offered. An activity course may be taken for credit once only.



**Lower Division Courses****ACTIVITY COURSES**

All activity courses are general education courses.

- |  |   |
|--|---|
| 1A-1B-1C-1D. Individual Adaptation ( $\frac{1}{2}$ ) I, II | 13. Archery ( $\frac{1}{2}$ ) I, II       |
| 2. Basketball ( $\frac{1}{2}$ ) I, II                      | 14. Badminton ( $\frac{1}{2}$ ) I, II     |
| 3. Boxing ( $\frac{1}{2}$ ) I, II                          | 15. Fencing ( $\frac{1}{2}$ ) I, II       |
| 4. Gymnastics ( $\frac{1}{2}$ ) I, II                      | 16. Golf ( $\frac{1}{2}$ ) I, II          |
| 5. Soccer ( $\frac{1}{2}$ ) I                              | 17. Handball ( $\frac{1}{2}$ ) I, II      |
| 6. Softball ( $\frac{1}{2}$ ) II                           | 18. Tennis ( $\frac{1}{2}$ ) I, II        |
| 7. Touch Football ( $\frac{1}{2}$ ) I                      | 19. Bowling ( $\frac{1}{2}$ ) I, II       |
| 8. Track and Field ( $\frac{1}{2}$ ) I, II                 | 20A-20B. Swimming ( $\frac{1}{2}$ ) I, II |
| 9. Volleyball ( $\frac{1}{2}$ ) I, II                      | 21. Life Saving (1) I, II                 |
| 10. Wrestling ( $\frac{1}{2}$ ) I, II                      | 24. Hiking ( $\frac{1}{2}$ ) I, II        |
|  | 25. Baseball ( $\frac{1}{2}$ ) II         |

**INTERCOLLEGIATE SPORTS**

- |                                       |                                     |
|---------------------------------------|-------------------------------------|
| 30. Baseball ( $\frac{1}{2}$ ) II     | 35. Gymnastics ( $\frac{1}{2}$ ) II |
| 31. Basketball ( $\frac{1}{2}$ ) I    | 36. Tennis ( $\frac{1}{2}$ ) II     |
| 32. Cross Country ( $\frac{1}{2}$ ) I | 37. Track ( $\frac{1}{2}$ ) II      |
| 33. Football ( $\frac{1}{2}$ ) I      | 38. Wrestling ( $\frac{1}{2}$ ) II  |
| 34. Golf ( $\frac{1}{2}$ ) II         |                                     |

**WOMEN'S DEPARTMENT**

Freshmen may choose from courses numbered 1-11 or 20A-B. Sophomores may choose from all courses offered. An activity course may be taken for credit once only.

The individual activities, tennis, golf, archery, badminton, swimming, and dancing are offered through the year. Candidates for the special secondary credential in physical education must select one as a major activity and two others as minors. Skills in the activities must be maintained as prerequisite to the senior course, Physical Education 155.

**Lower Division****ACTIVITY COURSES**

All activity courses are general education courses.

**1A-1B. Fundamental Skills ( $\frac{1}{2}$ ) I, II**

Practice in efficient fundamental body movements.

**2A-2B. Folk Dancing (Men and Women) ( $\frac{1}{2}$ ) I, II**

2A is a prerequisite for 2B.

**3A. Modern Dance (Men and Women) ( $\frac{1}{2}$ ) I, II**

A beginning course in creative movement designed to develop control and intelligent use of the body as an instrument of expression.

**3B. Modern Dance (Men and Women) ( $\frac{1}{2}$ ) I, II**

Skill techniques, qualities and style of movement, beginning compositional form. Prerequisite: 3A.

**5A. Soccer, Speedball, Hockey ( $\frac{1}{2}$ ) I, II****5B. Softball, Volleyball ( $\frac{1}{2}$ ) I, II****6. Basketball ( $\frac{1}{2}$ ) I, II****11A-11B. Ballroom Dancing (Men and Women) ( $\frac{1}{2}$ ) I, II**

11A is a prerequisite for 11B.

**12A. Advanced Modern Dance (Men and Women) (1) I, II**

Skill techniques, rhythmic form and analysis. Materials of design and group composition. Criticism of student sketches, studies and completed dances. Prerequisites: 3A, 3B, except for physical education majors who are not required to take 3B.

**12B. Advanced Modern Dance (Men and Women) (1) I, II**

Advanced skill techniques and group choreography. The use of percussion instruments and various forms of accompaniment. Discussion, lectures, practice. Prerequisites: 3A, 3B, 12A.

**13A-13B. Archery ( $\frac{1}{2}$ ) Year, I, II****14A-14B. Badminton ( $\frac{1}{2}$ ) Year, I, II****16A-16B. Golf ( $\frac{1}{2}$ ) I, II****18A-18B-18C. Tennis (Beginning, Intermediate, Advanced) ( $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ ) I, II**

18A is a prerequisite for 18B; 18B is a prerequisite for 18C.

**19A-19B. Bowling ( $\frac{1}{2}$ ) I, II****20A. Swimming (For non-swimmers only) ( $\frac{1}{2}$ ) I, II****20B. Swimming (Intermediate) ( $\frac{1}{2}$ ) I, II****21. Life Saving (1) I, II**

Standard American Red Cross course in life saving and water safety, designed to qualify superior swimmers for Senior Life Saving Certificate.

**24. Hiking ( $\frac{1}{2}$ ) I, II****MEN AND WOMEN****PROFESSIONAL THEORY COURSES****Lower Division Courses****53. Physical Education in the Elementary School ( $2\frac{1}{2}$ ) I, II**

The state program in physical education for the elementary school forms the basis of the course. Candidates for the elementary credential are required to take the course section which includes two lectures and two laboratory periods per week. Candidates for the special secondary credential in physical education may take the course section which includes two lectures without laboratory periods.

**63. Professional Activities (men) (2) II**

Practice in the skills and techniques of the dance, and experience in the organization and presentation of dance materials.

**64. Professional Activities (men) (2) I**

The acquisition of skills and teaching techniques, and the development of knowledge and interest in the combative activities, primarily wrestling and boxing.

**72. Introduction to Physical Education (2) I, II**

History and principles of physical education and sports. Study of the objectives of modern physical education with a view toward the development of a basic philosophy and background for professional education.

**Upper Division Courses****\*122. Water Safety Instruction (1) II**

Methods and materials for teaching swimming. Course designed to qualify expert swimmers for American Red Cross Swimming Instructors Certificate. A general education course in physical education. Prerequisite: P.E. 20B or equivalent, and American Red Cross Senior Life Saving Certificate.

**141. Professional Activities: Gymnastics (men) (2) I**

The skills and teaching techniques in gymnastics. The place of tumbling, apparatus, self-testing and calisthenics in the school program. Knowledge of the rules for competition in gymnastics.

**142. Professional Activities: Swimming (men and women) (1) II**

The development of skills in swimming with emphasis on the teaching techniques. Scope of course is from beginning swimming to life saving techniques.

**143. Professional Activities: Coaching Track (men) (1) I**

Organization of practice sessions and drills for developing fundamental skills and special abilities; study of rules and officiating techniques; consideration of scheduling problems, coaching techniques and meet strategy and organization.

**144. Professional Activities: Coaching Baseball (men) (1) II**

Organization of practice sessions and drills for developing fundamental skills and special abilities; study of rules and officiating techniques; consideration of scheduling problems, coaching techniques and meet strategy and organization.

**145. Professional Activities: Team Sports (men) (2) I**

The skills, rules, teaching techniques, officiating, and organization of materials in such sports as soccer, touch football, softball, hockey, basketball, and other sports.

**146. Professional Activities: Individual Sports (men) (2) II**

The skills, rules, teaching techniques, officiating, and organization of materials in such sports as handball, tennis, badminton, archery, golf, and other sports.

**147. Professional Activities: Coaching Football (men) (1) I**

Organization of practice sessions and drills for developing fundamental skills and special abilities; study of rules and officiating techniques; consideration of scheduling problems, coaching techniques and game strategy.

**148. Professional Activities: Coaching Basketball (men) (1) I**

Organization of practice sessions and drills for developing fundamental skills and special abilities; study of rules and officiating techniques; consideration of scheduling problems, coaching techniques and game strategy.

**151. Folk Dancing Materials and Advanced Techniques (women) (2) I**

Folk customs, festivals, and costumes. Selection of dance materials for various age groups. Practice in advanced techniques. Prerequisites: Physical Education 2A-2B.

**153A-153B. Problems in Modern Dance (men and women) (2-2) I, II**

The construction and critical evaluation of the more complex forms of choreography. Prerequisites: Physical Education 12A-12B, or permission of instructor.

**154A-154B. Methods of Teaching Modern Dance (2-2) I, II**

Advanced skill techniques with emphasis upon individual choreography. Selection of materials and course planning for the secondary school. Class teaching experience. Brief survey of basic literature and current readings in the field. Prerequisites: Physical Education 3A and 12A.

**155. Techniques of Individual Sports (women) (1) I**

Review of individual playing techniques, knowledge, rules, and teaching methods in tennis, archery, badminton, and swimming. Designed for senior majors in physical education, who are expected to demonstrate a high degree of competency in the sports indicated.

**156A-156B. Sports Methods (women) (2-2) I, II**

Analysis of skills, teaching techniques, officiating, and the organization of materials in team sports for women. Prerequisites: Physical Education 5A, 5B, 6.

**157A-157B. Choreography in Contemporary Dance (men and women) (3-3) I, II**

Experimentation in the dance, relating contemporary theories to other art forms. The study of force and time-space relationships as factors in choreography. Production problems. Two lectures and three hours of laboratory work per week. Prerequisite: permission of instructor.

**160. Teaching of Body Mechanics (women) (3) II**

Efficient use of the body in daily living; evaluation and classification of exercises, study of methods, and practice in planning and presenting material. Prerequisite: P.E. 167.



**161. Instructor's Course in First Aid (2) I, II**

Instructor's course in first aid, as outlined by the American Red Cross. Standard first aid techniques, care of injured, certification and record keeping, and practical work in first aid.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**167. Applied Anatomy and Kinesiology (3) I**

Anatomical and kinesiological analysis of human structure and movement. Application of analysis relative to mechanical principles as influenced by efficiency factors of body functions. Prerequisites: Zoology 8A-8B.

**168. Physiology of Exercise (3) II**

A nonlaboratory course emphasizing the relation of physiology to muscular exercise in physical activities. Prerequisites: Zoology 8A-8B.

**169. Adapted Activities (3) II**

The adaptation of programs for the atypical individual, including physical examinations, training and prescribed exercises, follow-up, instructional problems, and evaluation. Three lectures and two laboratory periods per week. Prerequisite: Zoology 8A-8B and Physical Education 167.

**170A-170B. Recreational Leadership (2-2) Year, I**  
(Same course as Recreation 170A-170B)

Principles and practices in recreational leadership. Methods of instruction and special techniques in the activities of the recreation program. Attention to crafts, music, social programs, drama, special projects, dance, sports, campcraft, and outdoor education. Not open to students with credit for Recreation 170A-170B.

**190. Administration of Physical Education in the Secondary School (3) I, II**

Problems and practices in the organization and administration of the secondary school activity program. Study, selection and adaptation of activities, examination, and grouping of pupils, use and evaluation of tests. Selection and maintenance of equipment and facilities.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of department chairman.

**Graduate Courses****200. Evaluation Procedures in Physical Education, Health Education and Recreation (2) I** (Same course as Health Education 200)

A study of tests and measurements in the profession, with practice in their construction and use, and interpretation of results. Not open to students with credit for Health Education 200.

**201. Developmental Physical Education (2)**

Intensive study of postural divergencies, lack of physical development, and methods of correcting such conditions through exercise. Practice in making physical examinations, constructing individual exercise programs, and teaching remedial exercises. Consideration of ethical procedures and limitations. Prerequisite: Physical Education 167.

**203. Problems in Physical Education (2)**

A survey of current problems facing the physical education profession, through a review of literature, discussion of trends, and observation of school situations. Analysis and evaluation of actual problems. Written reports required.

**204. Problems in Recreation (2)** (Same course as Recreation 204)

A survey of current problems facing the recreation profession, through a review of literature, discussion of trends, and observation of school situations. Analysis and evaluation of actual problems. Written reports required. Not open to students with credit for Recreation 204.

**205. Curriculum in Physical Education and Health Education (2)**  
(Same course as Health Education 205)

Analysis of current curricula in physical education and health education, with special emphasis upon curriculum construction and evaluation.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree.

## PHYSICAL SCIENCE

### IN THE DIVISION OF PHYSICAL SCIENCES

#### Major

A *physical science major in arts and sciences* is offered for the A.B. degree to students who have been admitted to the teacher education program if eight units in professional education courses are completed by the date of degree candidacy. The major is in addition to 45 units in general education, except that nine units of chemistry, physics, and mathematics may be applied toward general education requirements. Lower division requirements: Chemistry 1A-1B, Physics 4A-4B-4C (or 2A-2B-3A-3B), Mathematics 3A-3B, 4A (recommended 4B). Upper division requirements: 24 units to include a minimum of seven units in each of chemistry and physics. Chemistry must include Chemistry 101A. Physics must include Physics 107 and 158 (or 148 if physics preparation is 2A-2B). Recommended: Physical Science 150 and Industrial Arts 185. Other courses to be selected with approval of the departmental adviser. Physical Science majors are not required to complete a minor; however, candidates for the general secondary credential may wish to complete a teaching minor for the general secondary credential during the undergraduate program.

A *teaching major in physical science and general science* is offered for the general secondary and junior high school credentials. For a statement of requirements, refer to these credentials.

#### Minor

A *minor in arts and sciences* is offered in *physical science* for the A.B. degree to students who have been admitted to the teacher education program if eight units in professional education courses have been completed by the date of degree candidacy. The minor consists of a minimum of 20 units to include three or more units in at least three of the following areas: Astronomy 1; Biology 3, 4; Chemistry 2A-2B or 1A-1B; Geology 2 or 1A; Physics 2A-2B and 3A-3B or 4A-4B-4C.

A *teaching minor in physical science and general science* is offered for the general secondary, special secondary, general elementary, and kindergarten-primary credentials. For statement of requirements, refer to these credentials.

#### Lower Division Courses

**\*1. Introduction to Physical Science (3) I, II**

The nature of the physical universe, through concepts of the whole field of physical science, rather than emphasis on its separate divisions. Materials chosen primarily from astronomy and physics. No prerequisites. Not open to students with credit for a college course in physics or astronomy, or Physical Science 5. This course is a general education course in physical science which may be followed by Astronomy 9 for laboratory credit in natural science.

**\*2. Introduction to Physical Science (3) I, II**

Continuation of Physical Science 1, with emphasis on materials chosen primarily from chemistry and geology. It is recommended but not required that Physical Science 1 be taken first. Not open to students with credit for a college course in chemistry or geology. This course is a general education course in physical science which may be followed by Geology 3 for laboratory credit in natural science.

**\*5. Man and His Physical World (3) I, II**

Selected topics in physical science. The relations of physical science to modern life through emphasis on the scientific method. Designed for those intending to take only one semester of physical science. A general education course in physical science. May be followed by Astronomy 9 or Geology 3 for laboratory credit in natural science. Physical Science 5 is not open to students with credit for Physical Science 1 or 2, or a college course in astronomy, chemistry, geology, or physics.

**Upper Division Courses****\*130. Modern Physical Science (3) I**

Recent and current developments in the physical sciences. Discussions concerning such phenomena as radioactivity, cosmic rays, nuclear energy, tracer techniques, radio telescopes, supergalaxies. Prerequisite: Upper division standing. Not open to students who have credit for Physics 4A-4B-4C, or equivalent.

**140S. Contemporary Problems in Physical Science (1) Summer**

A series of six weekly lectures on varied aspects of physical science by scientists engaged in research. Reading and reports required of students enrolled for credit. These lectures are open to the public.

**\*150. Readings in the Physical Sciences (3) I, II**

Reading from selected materials with informal class discussion of topics.

**PHYSICS****IN THE DIVISION OF PHYSICAL SCIENCES****Major**

A *major in arts and sciences* is offered in *physics* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Physics 4A-4B-4C, Chemistry 1A-1B, or their equivalents. Recommended: a reading knowledge of French or German. Upper division requirements: a minimum of 24 upper division units in physics to include Physics 101, 103, 105, 107, and 110; two units each of Physics 120 and 198. Students who plan to do advanced work in physics should include Physics 106, 112, 170, and 175 to have minimum preparation acceptable at most graduate schools. A minor in mathematics is required, consisting of Mathematics 3A-3B, 4A-4B, or their equivalents, and Mathematics 118A-118B. Recommended: three units chosen from Mathematics 104, 111, 119, 121, or 124. Nine units of chemistry, physics, and mathematics may be applied toward general education requirements.

A *major in arts and sciences* is offered in *physics* for the B.S. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Physics 4A-4B-4C, Chemistry 1A-1B, Mathematics 3A-3B, 4A-4B, or their equivalents. Upper division requirements: a minimum of 36 upper division units including Physics 101, 103, 105, 107, 110, and 198; and Mathematics 118A-118B. The program, planned in consultation with the departmental adviser for this degree, must be designed to provide a four-year terminal program for the student. A minor is not required. Nine units of chemistry, physics, and mathematics may be applied toward general education requirements.

The following additional courses are required as a part of two options approved under this degree: *Applied Physics*: Physics 106, 112, 114, and four units of Physics 120. Recommended: Physics 151, 170. *Electronics*: Physics 104A-104B, 123, 124, 160.

A *teaching major in physical science and general science* is offered for the general secondary school credential and a *teaching major in general science* is offered for the junior high school credential. For statement of requirements, refer to these credentials.

**Minor**

A *minor in physics* is offered in arts and sciences. The minor consists of 15 to 22 units in physics, six units of which must be in courses carrying upper division credit.

A *teaching minor in physical science and general science* is offered for the general secondary, special secondary, general elementary, and kindergarten-primary credentials. For statement of requirements, refer to these credentials.



### The Master's Degree

The master of arts degree for teaching service is offered with a major in physics. The master of science degree is offered with a major in applied physics. See section of this catalog entitled "The Master's Degree."

### Lower Division Courses

NOTE: A maximum of 12 units of lower division physics credit may be applied toward the A.B. or B.S. degrees.

#### \*2A-2B. General Physics (3-3) Year, I, II

This course is for liberal arts and certain preprofessional students who do not desire intensive physics preparation. Lectures, demonstrations and discussions. 2A, properties of matter, mechanics, heat, and sound; 2B, electricity, magnetism, and atomic physics. A physical science general education course in the area of natural science. Prerequisite: two years of high school mathematics. Physics 2A is a prerequisite for 2B. Recommended concurrent registration in Physics 2A and 3A, and in Physics 2B and 3B.

#### \*3A-3B. Physical Measurements (1-1) Year, I, II

A laboratory course to accompany Physics 2A-2B. 3A: properties of matter, mechanics and heat. 3B: electricity, magnetism, sound and light. One three-hour laboratory per week. A physical science general education course, either semester of which meets the laboratory requirement in natural science. Prerequisite for 3A: concurrent or previous registration in Physics 2A. Prerequisite for 3B: concurrent or previous registration in Physics 2B.

#### 4A-4B-4C. Principles of Physics

The following sequence of three courses is designed to give a thorough background in the fundamental principles of physics, with applications to practical problems. Each course consists of three lectures and one three-hour laboratory per week.

#### 4A. Mechanics (4) I, II

The mechanics of solids and fluids. Prerequisites: credit for Mathematics 3A and concurrent registration in Mathematics 3B. Not open to first semester freshmen.

#### 4B. Electricity (4) I, II

Magnetism, electricity and elementary electronics. Prerequisites: Physics 4A and concurrent registration in Mathematics 4A.

#### 4C. Heat, Sound and Light (4) I, II

Heat and thermodynamics, sound, light, and modern physics. Prerequisites: Physics 4B and concurrent registration in Mathematics 4B.

#### \*5. Physics of the Home (4) I

Everyday applications of physics in heating, lighting, insulating, cooking, refrigeration, air-conditioning, sound, music, mechanical and electrical appliances. Not open to students with credit for Physics 2A, 2B, 4A, 4B, or 4C. Three lectures and three hours of laboratory per week. A general education course in physical science which also meets the laboratory requirement in natural science.

#### 6. Physics for Nurses (3) I

Selected topics in mechanics, heat, light, electricity, and atomic physics applicable to nursing. Discussions, demonstrations, and laboratory practice. Two three-hour periods per week.

#### 14. Acoustics of Music (3) II

Fundamentals of acoustics and audition underlying musical phenomena presented in descriptive and nonmathematical terms. Prerequisite: A technical understanding of music.

### Upper Division Courses

#### 101. Modern Physics (3) I, II

Modern developments in physics, including an introduction to the quantum and relativity theories, and to the fields of atomic, nuclear, and solid state physics. Industrial applications of nuclear power. Prerequisites: Physics 4C; or Physics 2B and a working knowledge of the calculus.

**103. Basic Electronics (3) I**

A qualitative survey of electron tubes, amplifiers, and electronic systems. Prerequisites: Physics 4B, or 2B and 3B, and a working knowledge of the calculus.

**104A-104B. Vacuum Tube Circuit Design (3-3) I, II**

The design of resistance loaded amplifiers including negative feedback and its application to regulated power supplies, cathode followers, and DC amplifiers. Power amplifiers, oscillators, modulators and detectors. Prerequisites: Physics 103 and 110, or permission of the instructor.

**105. Analytical Mechanics (3) II**

Principles of Newtonian mechanics developed through the use of vector methods. Statics and dynamics of particles and rigid bodies. Prerequisites: Physics 4C and Mathematics 118A.

**106. Optics (3) II**

A study of reflection, refraction, dispersion, interference, diffraction, double refraction and polarization, with applications to optical instruments. Also wave propagation, radiation, spectra and the nature of light. Prerequisite: Physics 2B-3B or 4C.

**107. Electrical Measurement (2) I**

The theory and application of electrical measurements, including the measurements of current, voltage, power, resistance, capacitance and inductance. Stress on determination of probable errors of measurements. An hour lecture and a three-hour laboratory per week. Prerequisites: Physics 2B-3B or 4B, and a working knowledge of calculus.

**110. Alternating Current Circuits (3) I**

The operator "j" applied to circuits containing resistance, capacitance and inductance; series and parallel resonance; coupled circuits; transients; practical circuit elements, networks. Prerequisites: Physics 4C and concurrent registration in Mathematics 118A, or permission of instructor.

**112. Thermodynamics and Kinetic Theory (3) II**

Thermal properties of matter, laws of thermodynamics, kinetic theory of gases, and an introduction to statistical mechanics. Prerequisites: Physics 4C and Mathematics 4B.

**114. Acoustics (3) II**

Wave motion and its application to the production, transmission and reception of sound. Development of acoustic circuits using electro-acoustic analogues. Prerequisites: Physics 103, 105, and 110.

**120. Advanced Laboratory (2-4) I, II**

Advanced experimental measurements in the fields of classical and modern physics, such as: acoustics, optics, heat and thermodynamics, mechanics, electricity and magnetism, atomic and nuclear physics. With the consent of the instructor and the adviser the course may be repeated in the same subject but with new material for additional credit. Prerequisite: Consent of the instructor.

**123. Electronics Laboratory (2) I, II**

An experimental study of electron tubes and their associated circuits. Study of cathode ray oscilloscope, vacuum tube voltmeter, characteristics of power supplies, amplifiers and filter systems. An hour lecture and a three-hour laboratory per week. Prerequisites: Physics 107 and concurrent registration in Physics 104A; or permission of the instructor.

**124. Radio Measurements (2) II**

Laboratory measurements of the parameters of resonant circuits at radio frequencies. Study of the properties of oscillators, modulators, detectors and wave guides. An hour lecture and a three-hour laboratory per week. Prerequisites: Physics 123 and previous or concurrent registration in Physics 104B; or permission of the instructor.

**151. Atomic and Nuclear Physics (3) I**

A study of the wave model of the atom and its application to spectroscopy. Nuclear phenomena, theory of the nucleus, cosmic rays, and high-energy reactions of particles. Prerequisites: Physics 101 and 105.

**152. Advanced Electronics (3) II**

A study of selected topics chosen from contemporary electronics. Prerequisite: Physics 104B.

**153. Servo-System Design (3) II**

Regulatory systems, including servomechanisms by the Laplace Transform. System performance and stability. Practical components and examples of typical designs. Prerequisites: Differential equations and Physics 103, or permission of the instructor.

**154. Television Circuits (3) II**

The principles, analysis and design of television transmitting and receiving systems. Special operational mathematics techniques will be included. Prerequisite: Physics 104B.

**155. Analogue Computers (3) II**

Electronic integration and differentiation; solution of differential equations; multiplication, division and function generation; simulation of mechanical systems varying with time, solution of typical problems; auxiliary equipment, layout of large installations. Prerequisites: Differential equations, and Physics 103.

**156. Digital Computers (3) I**

The binary number system; electronic and magnetic flip-flop circuits; memory devices; programming; complete computer systems. Auxiliary equipment for inserting information and reading out results rapidly. Typical applications and limitations. Prerequisites: Differential equations, and Physics 103.

**160. Circuit Analysis (3) II**

A study of filter design, transmission lines, and network analysis. Prerequisites: Physics 110 and concurrent registration in Mathematics 118B; or permission of the instructor.

**166. Honors Course (Credit to be arranged) I, II**

An individual study arrangement for students admitted to the Honors Program. Enrollment through the department chairman, subject to the approval by the Committee on Honors. Refer to the Honors Program.

**167. Transistor Circuits (3) II**

Properties of transistors and their application to amplifiers, oscillators and trigger circuits. Prerequisite: Physics 104B or permission of the instructor.

**170. Electromagnetic Theory (3) II**

Electrostatics and magnetostatics treated by vector methods; chemical and thermal effects; motion of ions in electric and magnetic fields; magnetic field of a current; electromagnetic induction and radiation. Prerequisites: Physics 110 and a working knowledge of vector analysis and differential equations.

**171. Introduction to Microwaves (3) I**

A study of the generation and amplification of microwaves. Prerequisites: Physics 104B and Physics 160.

**175. Advanced Mechanics (3) I**

Generalized coordinates, Lagrangian and Hamiltonian functions, vibrations, elasticity, elementary nonlinear systems, introduction to quantum and wave mechanics. Prerequisites: Physics 105 and concurrent registration in Mathematics 118B; or permission of the instructor.

**196. Advanced Physics (2 or 3) I, II**

Selected topics in classical and modern physics. Prerequisite: Permission of the instructor. May be repeated with the approval of the instructor for a total of 6 units.



**198. Senior Report (2) I, II**

Each student will work on a project in physics and make oral reports to the class. A complete written report is required on each project. One discussion period and one three-hour laboratory per week. Prerequisite: Permission of instructor. May be repeated to a total of four units of credit.

**199. Special Study (1-2) I, II**

Individual study or laboratory work on a special problem in physics selected by the student. Each student will be assigned a member of the staff who will supervise his work. Credit, hours and topics to be arranged in each case. Six units maximum credit.

**Graduate Courses****200. Seminar (2 or 3) I, II**

An intensive study of one phase of physics, such as: mechanics, heat and thermodynamics; acoustics, electromagnetic radiation, electronics, atomic physics. May be repeated with new subject matter for additional credit.

**210A-210B. Mathematics of Chemistry and Physics (3-3) Year, I**

(Same course as Chemistry 210A-210B or Mathematics 210A-210B)

An introduction to the mathematical processes which form a basis for advanced work in one of the physical sciences. First semester: selected topics introducing the student to the mathematical approach in solution of scientific problems. Second semester: applications of mathematical principles to specific problems in chemistry and physics. Prerequisites: Graduate standing and acceptance into Master of Science degree program.

**290. Bibliography (1)**

Exercise in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**296. Directed Field Experience (1-6)**

Meets the requirement of directed field experience for candidates for the Master of Science degree, but is not limited to candidates for the degree. Required in addition to the 30-unit requirement for the degree.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis in physics for the master's degree.

**POLITICAL SCIENCE****IN THE DIVISION OF SOCIAL SCIENCES****Major**

A *major in arts and sciences* is offered in *political science* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Political Science 1A-1B or 71A-71B. Upper division requirements: 24 units to include (a) three units in Political Science 197 or 199 and (b) 21 upper division units in political science distributed among at least three of the following groups: Group I, Political Theory, courses numbered 100 to 114; Group II, Politics, courses numbered 115 to 129; Group III, Public Law, courses numbered 130 to 139; Group IV, Public Administration, courses numbered 140 to 164; Group V, International Relations, courses numbered 165 to 179; Group VI, Comparative Government, courses numbered 180 to 195; *provided*, that at least two units of the required 21 shall be taken from Group I. A minor is required and is to be chosen with approval of the chairman of the department.

Students majoring in political science are advised to become as familiar as possible with related social science fields. It is recommended that majors have a reading knowledge of at least one foreign language.

A *teaching major* is not offered in political science; however, courses in political science may be used as part of the *teaching major in social science* for the general secondary and junior high school credentials. For statement of requirements, refer to these credentials.

#### Curricula for Government Service

For students who expect to enter government service, the following programs of study are offered: the public administration curriculum, the public personnel management curriculum, and the inter-American relations curriculum. These programs are described elsewhere in this section of the catalog. (Refer to the Index.)

#### Minor

A *minor in arts and sciences in political science* is offered. The minor consists of 15 to 22 units in political science, nine units of which must be in courses carrying upper division credit.

A *minor in arts and sciences in public administration* is also offered. The minor consists of Political Science 71A-71B in the lower division; Political Science 140A-140B and three units from 198 or other political science course in the upper division.

A *teaching minor in social science* is offered for the general secondary, special secondary, general elementary, and kindergarten-primary credentials. For statement of requirements, refer to these credentials.

#### The Master's Degree

The master of arts degree for teaching service is offered with a concentration in political science under the major of social science. For information on the master of science degree in public administration or the master of arts degree in personnel supervision and training, see section of this catalog entitled "The Master's Degree."

#### Lower Division Courses

##### \*1A. Introduction to Government (3) I, II

Theories and principles of government, with special attention to the problems created by modern industrialism and population pressures. A general education course in social science.

##### \*1B. Introduction to Government (3) I, II

A comparative survey of selected foreign governments: their constitutional principles, political institutions, and governmental problems. A general education course in social science.

##### \*71A-71B. Introduction to American Government and Politics (3-3) Year, I, II

Semester I: Governmental organization in the United States; the federal system; the organization, powers and functions of the legislative, executive and judicial branches of the government; the relations between federal, state and local units of government.

Semester II: Expansion of governmental functions and the development of means of democratic control; an examination of the increased use of government as an instrument of social control; the history, motivation, methods and control of political parties; nominations, elections and minority groups; pressure politics.

This year course is a general education course in social science which also meets the graduation requirement in American history, institutions and ideals, and the United States Constitution. The second semester course, 71B, also covers the required materials in California state and local government.

#### Upper Division Courses

##### Political Theory (Group 1)

##### \*105. American Political Thought (3) I, II

A survey of the development of American ideas concerning political authority from the period of colonial foundation to the present time. A general education course in social science.

**\*107A-107B. Constitutional Government (2-2) Year, I**

Modern government and politics; its theoretical foundations, institutions and problems. Emphasis will be on American experience with useful comparisons with other countries. Either semester may be taken first. A general education course in social science. This year course meets the graduation requirement in the United States Constitution. The second semester course, 107B, also meets the graduation requirement in California state and local government. (Formerly Political Science 137A-137B.)

**\*111A-111B. Theory of the State (3-3) Year, I**  
(Same course as Philosophy 111A-111B)

The nature of the State, its organization and activities, and its relation to the individual and other states. A general education course in social science. Not open to students with credit in Philosophy 111A-111B.

**\*112. Modern Political Thought (3) I, II**

Concepts concerning the nature of the state from Burke to the present. A general education course in social science.

*Politics (Group II)***\*115. American Institutions (3) I, II**

The principles of the Constitution of the United States of America, and a survey of the political and social institutions which have developed under the Constitution. A general education course in social science which also meets the graduation requirement in the United States Constitution and California state and local government. (Formerly Political Science 101.)

**120. Political Parties (3) I**

A critical analysis of the political party as a part of the process of government; party organization and activities; nominating and campaign methods; theories and functions of the party system; party responsibility. Special emphasis will be placed upon the function of the two-party system in American government.

**121. Basic Factors in American Politics (3) I, II**

An analysis of American political, legal, economic, and social factors in their relation to our political system and the public interest.

**122. Propaganda and Public Opinion (3) II** (Same course as Journalism 132)

A study of the forces which mold the American public mind, the practice of propaganda, a description and analysis of public relations, pressure groups and their effect in American public life. Not open to students with credit for Journalism 132.

**123-S. Contemporary American Politics (3) Summer**

A consideration of a selected group of current major political problems in terms of their possible future implications and of their relationship to established American democratic principles and ideals.

*Public Law (Group III)***136. Administrative Law (3) II**

The law of public office and public officers, powers of administrative authorities, scope and limits of administrative powers, remedies against administrative action.

**\*138. Introduction to Jurisprudence (3) I**

The development of legal systems and theories of the function of law. A general education course in social science.

**\*139A-139B. American Constitutional Development (3-3) Year, I**

A study of the work of the Convention of 1787 and of significant phases of American constitutional law. A general education course in social science which also meets the graduation requirement in American history, institutions and ideals, and United States Constitution. The second semester course, 139B, also meets the graduation requirement in California state and local government.



*Public Administration (Group IV)***140A-140B. Principles of Public Administration (3-3) Year, I**

Semester I: The administration of public services, staff and line functions, theories of organization and practices, and procedures of different types of governmental agencies.

Semester II: Principles and problems in governmental budgeting, performance and capital outlay, budget procedures, organization and administration of personnel programs, controls over administrative behavior, responsible bureaucracy and professionalism in the public services. Not open to students with credit in Political Science 147A-147B.

**141. Government Report Writing (2) I**

Actual writing problems in government, including surveys, recommendations, studies, analyses, progress reports, annual reports, etc., are discussed and their solutions analyzed. Attention to methods of collecting and organizing data, and practice in effective presentation of facts and ideas. Special consideration is given to problems of class members. (Formerly Political Science 128.)

**142. State Government (3) I**

(Same course as Journalism 142)

A study of the political structure and its operation used in the carrying on of the functions exercised by the states; state-federal relations; state-local government relations; particular emphasis on California government. This course meets the graduation requirement in California State and local government. Not open to students with credit for Journalism 142.

**143. Municipal and County Government (3) I (Same course as Journalism 143)**

A study of the organization and its operation used to carry into effect the functions assigned to local governmental units; particular emphasis upon local government in California. This course meets the graduation requirement in California state and local government. Not open to students with credit for Journalism 143.

**144. Introduction to Public Personnel Administration (2) I, II**

An introduction to the field, giving general coverage of the problems involved in recruitment, placement, supervision, etc., of public employees. Prerequisite: permission of instructor.

**145. Human Relations in Management (3) I, II**

(Same course as Business Administration 145)

Human factors in supervision and management. Problems of incentives, attitudes, communication, and other personal relations between employee and employer. Bases of effectiveness of various types of leadership. Discipline and grievances. Prerequisite: permission of instructor. Not open to students with credit for Business Administration 145.

**146. Wage and Salary Administration (3) I**

(Same course as Business Administration 146)

Job analysis; major techniques of job evaluation; problems of wage and salary administration, incentive pay methods; merit rating plans. Not open to students with credit for Business Administration 146.

**148. The Government of Metropolitan Areas (2) I**

A study of the governmental problems of metropolitanism; overlapping of governments, services, planning and financing. The use of intergovernmental contracts for public service, proper public service areas, and special authorities.

**151. California Law of Municipal Corporations (2) II**

California law governing the nature, regulation and control of the counties, charter cities, sixth class cities, school districts and special districts. The creation, alteration, dissolution, legal actions by and against, powers and duties; rights and liabilities of local governments. (Formerly Political Science 135.)

**152. Techniques of Administrative Analysis (2) I, II**

Areas and problems of administrative research; methods of analyzing structures and procedures in organizations; planning and administration of programs; design of forms; job classification and salary surveys; preparation of administrative reports. (Formerly Political Science 182.)

**153. Case Studies in Public Administration (3) II**

Analysis, by case studies, of management problems in public agencies and the organization and methods techniques used to solve them. Practical limitations upon the use of these techniques. Prerequisite: one course in public administration or permission of instructor. (Formerly Political Science 183.)

**155. Supervisory Staff and Employee Training (3) II**

(Same course as Business Administration 147)

Training as a management function and as an aspect of communication; operating methods and structure of training departments; types of training; evaluation of training results. Teaching methods and use of teaching aids. Not open to students with credit for Business Administration 147. (Formerly Political Science 181.)

**E-157. Public Relations of Public Agencies (2 or 3) II (Extension)**

The place and function of public relations in government. Historical development of public opinion relating to governmental agencies and employees. Current public relations practices in governmental agencies. (Formerly Political Science E-127.)

**159. Public Welfare Administration (3) II (Same course as Sociology 194)**

The philosophy of modern public welfare and the structure of public welfare agencies; administrative techniques, including personnel administration, federal-state-local relationships, finances. Prerequisites: Political Science 140A and 140B, or Sociology 190, or permission of instructor. Not open to students with credit for Sociology 194.

**E-160. Principles of Planning (2 or 3) I (Extension)**

An introduction to community planning: regional, county, and city. Consideration of the Master Plan, including its purposes, contents, and method of adoption. (Formerly Political Science E-187.)

**161. Field Studies in Government (3) II, Summer**

Study of organization, policies and functions of selected government agencies. Discussion by responsible officers and inspection of work operations and facilities in management, public safety, public works and utilities, and other major governmental operations. Prerequisite: permission of instructor. (Formerly Political Science 191.)

**E-162. Finance Administration (2 or 3) I (Extension)**

Principles and practices studied from the administrator's viewpoint. Problems of revenue, debt and treasury management, current and capital budget preparation and administration; purchasing and stores supervision; accounting and control and financial reporting. (Formerly Political Science E-192.)

**E-163. Governmental Budgeting (2 or 3) I (Extension)**

Procedures for budget preparation including expenditure and revenue estimating; budgetary studies; capital budgeting; problems in administrative and legislative consideration of the budget; consideration of performance budgeting techniques and practice. (Formerly Political Science E-193.)

*Honors Course*

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

*International Relations (Group V)***165. Dynamics of Modern International Crises (3) I**

The determination and analysis of facts surrounding international crises since World War II; the evaluation of these crises and their effects upon external policies of the United States and the operations of the United Nations. Prerequisite: consent of the instructor. (Formerly Political Science 155.)

**\*168-S. Institute on World Affairs (3) Summer**

Contemporary problems in international relations. May be repeated once for course credit with permission of the instructor. A general education course in social science.

**\*170A-170B. International Relations (3-3) Year, I**

A historical and analytical consideration of the basic factors—historic, geographic, economic, ideologic, and strategic—which underly and condition the modern conflict between the “sovereign state” and the “community of nations.” Fall semester: Origins and development through the nineteenth century. Spring semester: Twentieth century experimentation and conflict. A general education course in social science. (Formerly Political Science 150A-150B.)

**171. Administration of American Foreign Affairs (3) II**

An examination of the legal, administrative, and political organizations by which American foreign policies are formulated and implemented.

**172. International Organization (3) I**

A critical analysis of the organization by which the international community seeks to provide for the exercise of legislative, administrative and judicial functions on the international level: diplomatic and consular corps; conferences; administration through commissions and unions; amicable procedures for settlement of disputes; the League of Nations-United Nations experiment. (Formerly Political Science 152.)

**173. Principles of International Law (3) I**

The function of law in the international community. The historical development of the ideas and rules of international law and their place in the modern diplomatic and legal structure. (Formerly Political Science 153.)

**175. International Relations of the Latin American States (3) II**

The foreign policies of the Latin American states; the organization of American states; relationships with the United Nations and with the United States.

*Comparative Government (Group VI)***180. Government of England (3) I**

The structure and functioning of English parliamentary system with emphasis upon present day political principles and parties. (Formerly Political Science 162.)

**181. Government of the Soviet Union (3) I**

Theory and practice of government in the Soviet Union, with some attention to Russian foreign affairs. (Formerly Political Science 167.)

**182. Governments of Latin America (3) I**

The governments of leading and representative Latin American states. Emphasis on the background and evolution of current political institutions and philosophies. (Formerly Political Science 165.)

**197. Investigation and Report (3) I, II**

Analysis of special topics.

**198. Internship in Public Administration (2-6) I, II**

Students will be assigned to various government agencies and will work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences. Admission by permission of the instructor.



**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses**

**200A-200B. Seminar in Government (3-3) Year, I**

**240A-240B. Seminar in Public Administration (3-3) Year, I**

**290. Bibliography (1)**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**291. Problem Analysis (3) I, II**

Analytical treatment of selected problems in political science. Review of methods for investigation and reporting of data. Consideration of problems in preparation of project or thesis.

**296. Internship in Public Administration (1-6) I, II**

Students will be assigned to various government agencies and will work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences. Admission by permission of the instructor. Required in addition to the 30 units for candidates for the master of science degree in public administration who lack practical experience.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with the department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree.

**PSYCHOLOGY****IN THE DIVISION OF LIFE SCIENCES****Major**

A *major in arts and sciences* is offered in *psychology* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Two plans are provided for the major: one for those students expecting to pursue the study of psychology beyond the A.B. degree; the other for those students who wish to extend their general education in the field of psychology.

Lower division requirements for all majors: Psychology 5 and 6. Recommended selection of courses in related fields: six units in biology and/or zoology; three units in philosophy; and six units in anthropology and/or sociology.

The upper division requirements for each major will be determined by the plan selected by the student, but a minimum of 24 upper division units in psychology is required for a major.

Psychology majors are not required to complete a minor.

A *teaching major*: a major in psychology may be combined with two teaching minors for a general secondary credential. Refer to the outline of requirements for this credential.

**Minor**

A *minor in arts and sciences* is offered in psychology. The minor consists of 15 to 22 units in psychology, nine units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in psychology.

**Plan A Major**

Plan A is for a nonprofessional major in psychology and is designed to provide the student with a greater understanding of his expanding group relations leading to happy and effective family and community living. The recommended pattern of courses for this program is not designed to facilitate graduate and professional study in psychology.

The upper division requirements for Plan A majors: Psychology 106, 131, 145, and electives to complete the major. It is expected that each student under Plan A will select, with the assistance of his adviser, a pattern of courses in line with his particular objectives in pursuing Plan A. For most students in Plan A, the following courses will be found particularly helpful: Psychology 105A, 107, 122, 150, and 152.

To facilitate the purpose of Plan A the following courses in other departments are recommended as electives: Anthropology 1A-1B; Biology 1 or Zoology 1; Economics 1A-1B and 102; Health Education 90; Philosophy 1A-1B; Biology 160 and Zoology 165; and courses in home economics.

#### **Plan B Major**

The purpose of Plan B is to facilitate the specific preparation of those students who wish to pursue graduate and professional preparation in clinical, industrial and personnel, and theoretical-experimental psychology. To this end, three separate programs are suggested under Plan B to provide an undergraduate basic preparation for further study in these fields.

Upper division requirements for all Plan B majors: Psychology 104A, 105, 160A or 160B, and 178, and additional courses to complete the major selected from one of the groups listed below.

For each of the three patterns of special preparations under Plan B, it is recommended that 12 additional units be selected from courses in psychology listed below. The Department of Psychology strongly recommends those courses listed in other departments to implement the program.

*Preclinical:* Psychology 106, 145, 150, 151, 152, 160A, 175; Anthropology 1A-1B; Biology 3 and 4, or Zoology 8A-8B; Philosophy 1A-1B, or 3A-3B, 20, and 129; Sociology 135 and 170; Speech Arts 176 or 179; and Zoology 165. A natural science minor is recommended.

*Pre-industrial and personnel:* Psychology 121, 122, 124, 131, 145, 152, 160B; Business Administration 144 and 146; Economics 1A-1B, 100A, 150, 151, 170 and 185; Philosophy 20; Political Science 144, 145; Sociology 50, 51; six units selected from Sociology 135, 170, 180, 190; and Speech Arts 4; a minor in business administration, economics, political science, or sociology is recommended.

*Theoretical-experimental:* Psychology 104B, 140, 145, 150, 160A, 160B, 175, and 177; Chemistry 2A-2B; foreign language; Mathematics 1, 3A, and 3B; Philosophy 1A, 20 and 137; Physics 2A-2B and 3A-3B; Zoology 1, 8A-8B, 100 and 165. A mathematics or natural science minor is recommended.

#### **The Master's Degree**

The master's degree is offered with specialization in various occupational areas of psychology. Refer to the section of this catalog on the master's degree for specific information.

Before beginning work which can count toward meeting requirements for a master's degree in psychology, the student must

- (1) Have completed 24 units of upper division work in psychology, including Psychology 104A, 105, and 160A or 160B, or the equivalents,
- (2) Have an over-all grade point average of 3.0 in his last 60 units of work,
- (3) Have a percentile rank of 50 or higher on the psychology department comprehensive examination "total."

Students who plan to specialize in industrial or personnel psychology must complete satisfactorily the following courses (or their equivalents), either as a part of the undergraduate or graduate work: Psychology 104B and Psychology 178.

Students who plan to specialize in another phase of psychology must complete satisfactorily the following courses (or their equivalents), either as a part of the undergraduate or graduate work: Psychology 104B, 160A, 160B, 175, 177, and 178.

#### **Lower Division Courses**

##### **\*1. General (3) I, II**

An introduction to some of the facts, principles, and concepts which are basic to understanding human behavior. A required general education course in psychology.

**2. Psychology Laboratory (1)**

Application of experimental methods to psychological problems. Includes design and execution of experiments. One lecture and three laboratory hours. Prerequisite: Psychology 1.

**5. Principles of Psychology: Basic Organization of Behavior (3) I, II**

The basic sensory, neural and motor mechanisms and their functions in human behavior. Prerequisite: Psychology 1 and sophomore standing.

**6. Principles of Psychology: Learning and Integrated Behavior (3) I, II**

Attending, perceiving, and learning, including social learning, personality development, and conditions of efficient work. Prerequisite: Psychology 1 and sophomore standing.

**\*11. Applied Psychology (3) I, II**

A survey of the application of the basic principles of psychology to business, education, industry, government, law, medicine and related fields. A general education course in psychology. Prerequisite: Psychology 1.

**\*12. Mental Hygiene (3) I, II**

An examination and interpretation of the factors which go into the making of the person as he adapts himself to the social world about him. The development of the normal personality. A general education course in psychology. Prerequisite: Psychology 1.

**Upper Division Courses****104A. Statistical Methods in Psychology (3) I, II**

An introduction to the use of quantitative methods in psychology, with emphasis upon measures of central tendency and variability, graphic methods and percentiles, linear correlation, and the applications of the normal probability curve. Prerequisite: Psychology 1. Not open to students with credit for Economics 140 or Sociology 103.

**104B. Advanced Statistics (3) II**

A further study of quantitative methods in psychology with particular emphasis on methods of correlation, chi-square, and contingency, and in introduction to the analysis of variance. Prerequisites: Mathematics C and Psychology 104A, or permission of instructor.

**105. Psychological Testing (3) I, II (Same course as Education 150)**

The basic principles of testing. The selection and critical evaluation of group tests of intelligence, personality, aptitude, interest and achievement. Prerequisite: one of the following courses: Psychology 104A, Education 151, 152, 120, or a semester of statistical methods in any other department. Not open for credit to students with credit for Education 150.

**\*106. Developmental Psychology (3) I, II**

A study of the psychological development of the normal individual from conception through childhood, adolescence, maturity, and old age. Stress is laid upon the interdependence of the various periods of the individual's life. A general education course in psychology or in family life education. Prerequisite: Psychology 1.

**\*107. Psychology of Later Maturity (3) II**

The psychological, physiological, and sociological factors influencing behavior in the later years of life. A general education course in psychology. Prerequisite: Psychology 1.

**109. Mental Deficiency (3) I, Summer**

The nature and causes of mental retardation, including the psychological effects of brain injury. Characteristics of the mentally defective. Prerequisite: One of the following: Psychology 106, Education 110, 112, 113, or an equivalent.



**121. Personnel and Industrial Psychology (3) I, II**

Psychological principles applied to problems of selection and assignment of industrial personnel, employee training, and fatigue. Prerequisite: Psychology 104A, or Economics 140, or Sociology 103.

**122. Public Opinion Measurement (3) I** (Same course as Journalism 122)

The history, methods, and problems of public opinion and attitude measurement. Emphasis will be placed upon the polling of consumers and voters. Students will be given field experience. Not open to students with credit for Journalism 122.

**124. Engineering Psychology (3) II**

Psychological problems of man-machine systems. Visual, auditory, and other sensory factors involved in the inter-relations between man and machines. Motion-study, work arrangement, fatigue, and environmental influences in relation to production. Two lectures and one three-hour laboratory period per week. Prerequisite: Psychology 1 and upper division standing.

**130. Educational Psychology (2) I, II** (Same course as Education 111)

To develop understanding of the applications of psychological research for effective classroom teaching. Observation and field work required. Prerequisite: Psychology 1. Not open to students with credit for Education 111.

**131. Psychology of Personality (3) I, II**

The principles of personality and their application to problems of adaptation and mental hygiene. Prerequisite: one full year of psychology or equivalent.

**140. Physiological Psychology (3) II**

The neurophysiological basis of behavior, with particular attention to the psychophysiology of sensory and motor processes, emotion, bodily needs, and learning. Prerequisites: Psychology 5 and 6; or Psychology 5 or 6 plus six units in biological sciences; or nine units in biological sciences.

**\*145. Social Psychology (3) I, II** (Same course as Sociology 145)

The major problems and findings concerning group behavior and group membership, the socialization of the individual, and processes of social interaction. A general education course in psychology. Not open to students with credit for Sociology 145.

**150. Abnormal Psychology (3) I, II**

The psychology of behavior disorders, with emphasis on the amentias, neuroses, and psychoses. Prerequisite: one full year of psychology.

**151. Introduction to Clinical Appraisal (3) I, II**

A study of diagnostic devices in psychology, tests of clinical significance, ratings, and interviewing. Projective and case study analyses; problems of insight, rapport, empathy, and prediction of individual behavior. Prerequisites: Psychology 105A and 150, or Education 170 plus Education 151 or 152 or 120; one additional course in psychology selected from the following: Psychology 106, 131, 140, 105, or 150.

**152. Introduction to Methods of Counseling (3) I, II**

An introduction to problems and methods of counseling and adjustment. The utilization of psychological principles and techniques in dealing with various types of guidance situations. Prerequisites: senior or graduate standing in psychology or pre-social work, and permission of the instructor.

**160A. Experimental Psychology (3) I**

Demonstrations of the principles and conditions of learning, perceiving, problem solving, and thinking. Methodology and design of experiments. Six hours of laboratory and one lecture per week. Prerequisites: Psychology 5, 6, and 104A.

**160B. Experimental Psychology (3) II**

Demonstration of laws governing various sensory experience and motor activities. Experiments in space perception, errors of judgment, and conditions of work and fatigue. Six hours of laboratory and one lecture per week. Prerequisites: Psychology 5, 6, and 104A.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**170. Comparative Psychology (3) I, II**

A study of the behavior of animals with a view to gaining a better understanding of human behavior. An analysis of the leading experimental work on sensory discrimination, learning, and intelligence of each animal group, from amoeba to man. Prerequisites: Psychology 5 and 6.

**175. Theories of Learning (3) I**

A critical study of the facts, principles, and major theories of learning. Prerequisites: Psychology 1, 5, 6, 104A, or consent of the instructor.

**177. History of Psychology (3) II**

A survey of the historical background of modern psychology. Limited to psychology majors with senior standing and graduate students.

**178. Theories of Personality (3) I**

Integration of the findings from perception, learning, motivation, and from physiological and social psychology through a systematic treatment of personality theories and of related experimental data. Prerequisite: major in psychology with senior or graduate standing.

**180-S. Contemporary Problems in Psychology (1) Summer**

A series of six weekly lectures by visiting psychologists on subjects related to current research problems. Reading and reports required of students enrolled for credit. Enrollment for credit limited to upper division and graduate majors in psychology or by special permission of instructor. Lectures open to the public. May be repeated to a total of three units.

**191. Practicum in Psychology (1-6) I, II**

A practicum in mental testing, clinical psychology, and group counseling. Prerequisites: limited to second semester seniors with a psychology major and to graduate students in psychology, with appropriate qualifications in a field of professional skill, and approved by the practicum committee of the Psychology Department.

**199. Special Study (1-6) I, II**

Individual study, including library or laboratory research and a written report. Six units maximum credit. Prerequisites: senior standing and permission of instructor.

### Graduate Courses

**201. Seminar (3) I**

A review, integration, and supplementation of the student's knowledge of psychology. Prerequisites: 24 units in psychology, which may include educational psychology courses in the Education Department.

**204. Individual Psychological Testing (3)**

Principles of individual testing. Instruction and practice in the administration of the Stanford-Binet, Wechsler-Bellevue, and similar tests. Prerequisites: Psychology 105 and consent of instructor.

**205. Advanced Mental Testing (3) II**

The theory of mental testing and a comprehensive survey of the various verbal and nonverbal individual mental tests. Prerequisites: Psychology 104A, 105, 204, and 151, or equivalents.

**211. Advanced Clinical Psychology (3) I**

A seminar in psycho-diagnostics, counseling, and clinical research. Prerequisites: Psychology 151 and 152, or equivalents.

**220. Human Relations in Industry (3)**

Applications of psychological principles and methods of investigation to problems in industrial relations; selection, training, placement and motivation of employees; factors influencing morale and employee productivity; criteria of job proficiency; psychological aspects of worker-management relationships; leadership.

**221. Problems in Social Psychology (3)**

Factors influencing the formation of attitudes, opinions, and stereotypes; the establishment of roles during socialization of the individual; crises, change, and resistance to change; the causes and alleviation of interpersonal conflict.

**222. Theoretical Psychology (3)**

Basic concepts and principles integrating information in the areas of learning, emotion, motivation, personality, and social interaction. Relationships of scientific methods to the formation and testing of hypotheses and other conceptualizations.

**223. Experimental Design (3)**

Methods of planning and carrying out systematic investigations to answer questions concerning human behavior, with stress on the interdependence of experimental design and statistical evaluation of results. Practice in formulation of testable hypotheses, techniques of equating groups, solution of sampling problems, and interpretation of results.

**224. Advanced Experimental (3)**

Methods, techniques, and apparatus applicable to questions and problems of various types. Special attention is given to sources of error, limitations on interpretation, and psychophysical methods. Students will design and carry out experiments in preparation for original, independent investigations.

**225. Principles of Test Construction (3)**

Detailed consideration of adequate sampling techniques, item construction, item analysis, determination and enhancement of reliability and validity of test.

**233. Guidance Counseling Techniques (3) I, II (Same course as Education 233)**

Designed for school counselors. To stress the understandings and procedures necessary for effective interviewing. Prerequisite: Education 230, or equivalent. Not open to students with credit for Education 233.

**234. Projective Psychology (3) I**

Introduction to the theory and principles underlying use of projective techniques by clinical psychologists; a review of the structure and dynamics of personality as interpreted by projective devices. Prerequisites: Psychology 104A, 105, 151, 178, and 204, or equivalents.

**235. The Rorschach Method (3) II**

A seminar and practicum in basic administration and scoring of the Rorschach Test, with critical appraisal of the problems involved in estimations of reliability and validity of this technique. Prerequisites: Psychology 104A, 105, 151, 204, and 234, or equivalents.

**290. Bibliography (1) I, II**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**296. Directed Field Experience (1-6)**

Meets the requirement of directed field experience for candidates for the master's degree, but is not limited to candidates for the degree. Required in addition to the 30-unit requirement for the degree.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3) I, II**

Guidance in the preparation of a project or thesis for the master's degree.



## PUBLIC ADMINISTRATION

## IN THE DIVISION OF SOCIAL SCIENCES

The program in public administration can be obtained by completion of the major in public administration or through a major in political science. In either case, the student will include in his program a sequence of work dealing with the principles and problems of organization for the carrying out of the functions of government, and public management. This latter aspect deals primarily with the directing and coordinating of work operations, the staffing of public agencies, the processes of budgeting and financial control, and the dynamics of management, namely planning, research, communications, leadership, and human relations in the administrative process.

The public administration curriculum may be adapted to several goals, one being the taking of junior administrative examinations for entrance into the government service at the local, state or federal levels, and preparation for advancement up the governmental ladder. It is designed also to prepare students for graduate work in public administration.

Selected students may participate in an internship program in government offices. Working under the close supervision of governmental officials and an adviser in public administration, the intern deals with actual administrative procedures and problems in government.

**Major in Public Administration**

The *major in public administration* is granted with the A.B. degree. The major is in addition to 45 units in general education courses.

*Specific requirements for the major:* Lower division: Political Science 71A-71B, Economics 1A-1B. Upper division: 36 upper division units, including Political Science 140A-140B and 197 or 199, Economics 131, and 140. Four additional units in upper division electives are required to complete the minimum of 40 upper division units required for graduation.

Students planning to enter the field of public administration should consult with an adviser in public administration.

**Minor**

A *minor in public administration* is offered in arts and sciences for students majoring in fields other than political science or public administration. This minor consists of Political Science 71A-71B, 140A-140B, and three units of upper division work selected from Political Science 197, 199, or other political science course in the upper division.

**The Master's Degree**

The master of science degree is offered with a major in public administration. See section of this catalog entitled "The Master's Degree."

**Certificate Programs in Public Administration and in Public Welfare Administration**

*Certificate in Public Administration:* Admission to candidacy for the certificate in public administration is open to all public service employees without reference to previous academic experience. Candidacy will be established by approval of the Coordinator of Public Administration. To receive the certificate in public administration, the candidate must complete an approved pattern of eight courses, with a grade point average of 1.5.

*Certificate in Public Welfare Administration:* Admission to candidacy for the Certificate in Public Welfare Administration will be established by approval of the Coordinator of Public Administration. To receive the certificate in Public Welfare Administration, the candidate must complete an approved pattern of 30 units in courses at San Diego State College with a grade point average of 2.0. Prerequisites for admission to candidacy are 20 units in approved social science courses.

Candidates for these certificate programs may obtain further information on requirements by writing to the Coordinator of Public Administration, San Diego State College.

## RECREATION

## IN THE DIVISION OF PHYSICAL EDUCATION, HEALTH EDUCATION AND RECREATION

## Major

A *major in recreation* is offered for the A.B. degree. The recreation curriculum is designed to provide a program of training for recreation and camp leadership, work with youth groups, and related activities.

*Specific requirements for the major:* lower division: Sociology 50 and 51; Physical Education 53. In addition, men are required to complete Physical Education 63. Women must include Physical Education 2A, 5A-5B and 6. Required in related fields: 12 units selected from the fields of art, industrial arts, music, physical education, and speech arts, with a maximum of five units in any one field. Courses in related fields which are designated as general education courses may be applied toward general education requirements. Upper division: 36 units distributed as follows: Recreation 165, 170A-170B, 184A-184B; Psychology 106, 145; Education 140; Physical Education 161; Political Science 143; nine units selected from Sociology 110, 174, 187, 190, 191. Four additional upper division units in electives are required to complete the 40 upper division units for graduation.

Students should consult with the adviser in the Recreation Curriculum for selection and arrangement of courses.

## Minor

A *minor in arts and sciences* is offered in *recreation*. The minor consists of 15 to 22 units to include the following courses: lower division: two units of physical education activity courses; Physical Education 53; and two units chosen from Art 61B, or fields of dance, drama, or music. Upper division requirements: Recreation 165, 170A-170B, and 184A or 184B. Recommended: Physical Education 161. Consultation with the chairman of the department is advised.

## Upper Division Courses

## 165. Administration of Community Recreation (3) II

The principles of organization and promotion of leisure time and recreation activities. Course content covers growth of the recreation movement, administration of areas and facilities, program of activities, features, services, organization and administration problems. A required course for recreation minors.

170A-170B. Recreational Leadership (2-2) Year, I  
(Same course as Physical Education 170A-170B)

Principles and practices in recreational leadership. Methods of instruction and special techniques in the activities of the recreation program. Attention to crafts, music, social programs, drama, special projects, dance, sports, camp-craft and outdoor education. Courses may be taken separately. Not open to students with credit for Physical Education 170A-170B.

## 184A-184B. Field Work in Recreation (3-3) Year, I

Observation and participation in supervised group activities in the field. Practical experience in the various public and semi-public community recreation agencies. For recreation majors and minors. Others only with permission of instructor.

## 199. Special Study (1-6) I, II

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

## Graduate Courses

204. Problems in Recreation (2) (Alternate years)  
(Same course as Physical Education 204)

A survey of current problems facing the recreation profession, a review of literature, discussion of trends and observation of school situations together with the analysis and evaluation of actual problems. Written reports are required. Not open to students with credit for Physical Education 204.

## ROMANCE LANGUAGES

### IN THE DIVISION OF HUMANITIES

#### Major

A *major in arts and sciences* is offered in *Romance languages* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: French 1, 2, 3, 4, 5, 6, and Spanish 1, 2, 3, 4, 5, 6. Recommended: History 4A-4B or 8A-8B (for those who emphasize Spanish in the upper division). Six units from courses 1, 2, 3, 4 in French or Spanish may be applied toward general education requirements. Upper division requirements: a minimum of 24 upper division units in French and Spanish including French or Spanish 198. At least nine units of upper division courses must be taken in each language. A person majoring in Romance languages must have a minor to be decided upon in consultation with his major adviser.

A *teaching major in Romance languages* is offered for the junior high and general secondary credentials. For specific information, refer to these credentials.

#### Minor

A *minor in arts and sciences* is not offered in Romance languages, but minors may be taken in French or Spanish.

#### The Master's Degree

The master of arts degree for teaching service is offered with a concentration in romance languages under the major of foreign language. See section of this catalog entitled "The Master's Degree."

#### Graduate Courses

#### 290. Romance Language Bibliography (1) I

Exercises in the use of basic reference books, journals, and specialized bibliographies in the field of the Romance languages. Prerequisite: nine units of upper division French or Spanish and graduate status.

## SOCIAL SCIENCE

### IN THE DIVISION OF SOCIAL SCIENCES

#### Major

A *major in arts and sciences in social sciences* is offered for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: six units in each of three of the following fields, the selection to be made on advice of the division adviser: (1) economics, (2) geography, (3) history, (4) political science, and (5) sociology-anthropology. Upper division requirements: a minimum of 30 units to include 12 units from any field named above; six units from each of two additional fields named above; and six units of electives from any of the fields named above. The major must include six units in U. S. history in either lower or upper division and work from at least four of the social science fields named above. Twelve units of social science courses in the major may be applied toward general education requirements in social science. A minor is not required of students with a major in social science.

*Inter-American Relations.* A curriculum in Inter-American Relations is offered with a major in social science. For a description of this curriculum, refer to the section of this catalog on Inter-American Relations. A student completing this curriculum will be graduated with a major in Social Science (Inter-American Relations).

A *teaching major in social sciences* is offered for the junior high school and general secondary school credentials. For statement of requirements, refer to these credentials.

#### Minor

A *minor in arts and sciences* is not offered in the social sciences.

A *teaching minor in social science* is offered for the general secondary, special secondary, general elementary, and kindergarten-primary credentials. For statement of requirements, refer to these credentials.

#### The Master's Degree

The master of arts degree for teaching service is offered with a major in social science. See section of this catalog entitled "The Master's Degree."



## SOCIAL SERVICE CURRICULUM

## (PRESOCIAL WORK)

## IN THE DIVISION OF SOCIAL SCIENCES

The professional curriculum in social service prepares for admission to graduate work in recognized American schools of social work. This curriculum should be pursued by those who plan careers in federal, state and local welfare work; social work in public schools including preparation for a teaching credential; family and children's private case work agencies; social settlement work; county probation work; child welfare agencies; statistical and investigational work in private and public agencies; work in public institutions for the defective and delinquent; medical social service and psychiatric social work in hospitals and clinics; executive positions in social work; and social work in numerous other organizations.

The lower division requirements of the arts and sciences curricula include the general requirements of recognized professional schools of social work and should therefore ordinarily be met in full.

**Major in Social Service**

A *major in social service* is offered for the A.B. degree. The major is in addition to 45 units in general education courses.

*Specific requirements for the major:* Lower division: Sociology 50 and 51, Economics 1A-1B, Political Science 71A-71B or 1A-1B, and Psychology 11 (21 units). Biology 3 or 4 should be taken as general education courses in natural science. Recommended: courses from anthropology, foreign language, and speech arts. Upper division requirements: Sociology 103, 187, 190, and an upper division elective (12 units); Economics, nine units selected from 102, 131, 150, 170, 185, 195; Political Science, six units selected from 140A, 140B, 142, 143; Psychology 145, 150, and an elective chosen from Psychology 106, 107, 151, or 152 (nine units); Zoology 165 (two units). An additional two units in upper division electives must be taken to complete the 40 upper division units required for graduation. Twelve units of social science in the major field may be counted as general education in social science.

Students should consult with the adviser in the social work curriculum for selection and arrangement of courses.

**Certificate in Public Welfare Administration**

A certificate in Public Welfare Administration is available to persons professionally engaged in the field of social work. This program is described under the Public Administration Curriculum.

## SOCIOLOGY

## IN THE DIVISION OF SOCIAL SCIENCES

**Major**

A *major in arts and sciences*, is offered in *sociology* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Sociology 50 and 51. Upper division requirements: A minimum of 24 upper division units in sociology, including Sociology 103, 110, 135, 152, 153, and 173 or 174. Students majoring in sociology are required to complete a minor.

A *teaching major* is not offered in sociology; however, courses in sociology may be used as part of the *social science major* for the junior high school credential or the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

**Minor**

A *minor in arts and sciences* is offered in *sociology*. The minor consists of 15 to 22 units in sociology, nine units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in sociology; however, courses in sociology may be used as part of the *social science minor* for the general secondary, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

### The Master's Degree

The master of arts degree for teaching service is offered with a concentration in sociology under the major of social science. See section of this catalog entitled "The Master's Degree."

### Lower Division Courses

#### \*35. Courtship and Marriage (3) I, II

Emphasizes preparation for successful marital adjustment by presenting materials that will help students to solve their own courtship, marriage, and family problems. A general education course in social science and also in family life education. Not open to students with credit for Sociology 135 or Home Economics 135 or other course in Marriage and the Family.

#### \*50. Contemporary Social Problems (3) I, II

Survey of modern social problems recognizing the sociological factors involved. Emphasis on the scientific method of approach. An evaluation of various causes and solutions of problems. A general education course in social science. Prerequisite: Sophomore standing.

#### \*51. Principles of Sociology (3) I, II

The development and use of the concepts applied to sociological analysis; the effects of isolation and social contacts, interaction, processes, forces, controls, collective behavior and social progress. A general education course in social science. This course is a prerequisite for upper division courses in sociology. Prerequisite: Sophomore standing.

### Upper Division Courses

#### 103. Elementary Social Statistics (3) I, II

Analysis and presentation of elementary material in the fields of sociology and social work. Tabular and graphic presentation, analysis of frequency distributions, trends, simple correlation, sampling and reliability techniques. Prerequisites: Mathematics A-B and Sociology 51. Mathematics C or 7A recommended. A prerequisite for most upper division sociology courses. Not open to students who have credit for Economics 140 or Psychology 104A or 104B.

#### \*110. Race Relations (3) I

A study of the Negro, Oriental, and other minority groups in the United States. A study of mental capacities, education, cultural achievement, family life, delinquency and other social factors of each group. Race prejudice, racial consciousness, theories of racial superiority and inferiority will be considered. A general education course in social science. Prerequisite: Sociology 51.

#### 120. Industrial Sociology (3) II

Analysis of group relationships within economic organizations. Problems of leadership, morale and conflict. Some attention to the sociology of occupations and professions. Prerequisite: Sociology 51.

#### \*135. Marriage and the Family (3) I, II

(Same course as Home Economics 135)

Background factors predictive of happy and successful marriages; family forms in other cultures; principal areas of adjustment in marriage; parent-child problems; the changing adolescent; causes and results of divorce; the family of tomorrow. A general education course in social science or in family life education. Not open to students with credit for Sociology 35 or Home Economics 135 or other course in marriage and the family.

#### \*145. Social Psychology (3) I, II (Same course as Psychology 145)

The major problems and findings concerning group behavior and group membership, the socialization of the individual, and processes of social interaction. A general education course in social science. Not open to students with credit for Psychology 145.

**146. Collective Behavior (3) II**

The basic processes of social behavior in masses and groups, including crowd behavior, fads, fashions, crazes, panics, rumors; sects and cults; heroes and scapegoats; social movements; effects of mass communication. Prerequisite: Sociology 51 or 145, or Psychology 145.

**152.\* History of Social Thought (3) I**

The origin and development of social theory in Europe and America; consideration of the fields and specialization and research in contemporary American sociology. Prerequisite Sociology 51.

**153. Modern Social Theory (3) II**

A study of theories basic to modern sociological research, including the viewpoints of European and American thinkers. Prerequisites: Sociology 51 and 152, or permission of instructor.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**170. Social Disorganization (3) I**

Survey of many alleged abnormal phenomena in society as seen in society today in various forms of individual, family, community and world disorganization, such as crime, prostitution, extreme alcoholism, migratory workers, divorce, revolution and war. Prerequisite: Sociology 51.

**173. Criminology and Penology (3) I**

The extent and characteristics of crime; consideration of physical, mental, economic, and sociological causes of crime; study of methods of penal discipline, prison labor, parole, and probation; programs of prevention. Prerequisite: Sociology 51, or permission of instructor.

**174. Juvenile Delinquency (3) II**

The nature and extent of delinquency; the causative factors involved; methods of control and prevention, with special attention to the protective and remedial measures offered by the school, home, juvenile court, correctional institutions and camps, probation and parole, and recreational agencies. Prerequisite: Sociology 51, or permission of the instructor.

**176. Contemporary Correctional Administration (3) II**

A study of the problems encountered in administering modern correctional programs, including juvenile and adult probation, courts and correctional institutions, forestry and road camps, detention homes, and jails. Prerequisite: Sociology 173 or 174, or consent of instructor.

**180. Population Problems (3) I**

Problems of population increase, migration, shifts in composition of population relative to age, sex, and racial distribution. Population practices and theories. Biological and geographical aspects of population problems. International population movements. Prerequisite: Sociology 51 and 103.

**184. Methods of Social Research (3) II**

Research methods and interpretation used in the study of communities, institutions and social conditions. Prerequisites: Sociology 51, 103 or equivalent, or permission of instructor.

**187. Urban Sociology (3) II**

A study of the structure and function of the modern city; types of neighborhoods; forms of recreation; social forces in a metropolitan area; types of urban personalities and groups; rural-urban conflicts of culture. Practical field studies required. Prerequisites: Sociology 51 and 103.



**190. Fields of Social Work (3) I**

A survey of the nature of social work and the various kinds of social work which are found in the modern urban life. The student is familiarized with the various social agencies in the community, their problems and methods of work, by readings and field trips. Volunteer social work in some social agency recommended. Prerequisite: Sociology 51.

**191. Community Welfare Organization (3) II**

An analysis of the structure and process of community organization for social welfare as well as the functional relationships between public and private welfare agencies. Field work will be required to study some of the social agencies of San Diego. Prerequisites: Sociology 51 and 103, or permission of instructor. (Formerly Sociology 185.)

**192. Social Work and the Law (3) II**

Trends and current developments in social legislation; laws regarding poor relief, child labor, and the family, including marriage and divorce laws, illegitimacy, adoption, guardianship. Prerequisite: Sociology 190 or permission of instructor.

**194. Public Welfare Administration (3) I**

(Same course as Political Science 159)

The philosophy of modern public welfare and the structure of public welfare agencies; administrative techniques, including personnel administration, federal-state-local relationships, finances. Prerequisites: Sociology 190, or Political Science 140A and 140B, or Political Science 147A or 147B, or permission of instructor. Not open to students with credit for Political Science 159. (Formerly Sociology 189.)

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****200A-200B. Seminar (2-2)****230. Principles of Social Case Work (3) I**

A study of the principles and practices of social case work; problems of case recording and analysis. Directed field work and case studies. Prerequisites: Sociology 190 or Psychology 152 or Education 233.

**231. Field Work in Social Case Work (3) II**

Supervised practice in local social work agencies. Prerequisite: Sociology 190 and 230.

**235A-235B. Case Work Supervision (3-3) Year**

Discussion and analysis of cases and problem situations encountered by social case work supervisors. Review of basic case work techniques and principles of personnel supervision as applied to social case work. Prerequisite: Sociology 230 or permission of instructor.

**290. Bibliography (1)**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree.

## SPANISH

## IN THE DIVISION OF HUMANITIES

**Major**

A *major in arts and sciences* is offered in *Spanish* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: In the major, Spanish 1, 2, 3, 4, 5, 6; in other foreign languages, French 1, 2, or German 1, 2, or Latin 1, 2. Six units in elementary French or German may also be applied toward general education requirements. Recommended: History 4A-4B or 8A-8B. Upper division requirements: A minimum of 24 upper division units, at least 21 units of which must be in Spanish, including Spanish 198. The remaining three units may be selected from Anthropology 151B; Geography 123, 124, 125; History 161, 162; Political Science 182; Spanish 115 or 116; or Comparative Literature 101A, 140A-140B, 152A-152B, in consultation with the Chairman of the Department. A person majoring in Spanish must have a minor to be decided upon in consultation with his major adviser.

A *major in arts and sciences* is offered in *Romance languages*. For specific information, refer to Romance languages in the section on Announcement of Courses.

A *teaching major* is offered in *Spanish or Romance languages* for the junior high school and general secondary credentials. For specific information, refer to these credentials.

**Minor**

A *minor in arts and sciences* is offered in *Spanish*. The minor consists of 15 to 22 units in Spanish, six units of which must be in courses carrying upper division credit.

A *teaching minor* is offered in *Spanish* for the general secondary, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to these credentials.

**The Master's Degree**

The master of arts degree for teaching service is offered with a concentration in Spanish under the major of foreign language. See section of this catalog entitled "The Master's Degree."

**Lower Division Courses****\*1. Elementary (3) I, II**

Pronunciation, oral practice, readings on Hispanic culture and civilization, minimum essentials of grammar. A general education course in foreign language.

**\*2. Elementary (3) I, II**

Continuation of Spanish 1. A general education course in foreign language. Prerequisite: Spanish 1 or one year of high school Spanish.

**\*3. Intermediate (3) I**

Reading in Spanish of cultural material, short stories, novels or plays; oral practice; outside reading with oral and written reports. A general education course in foreign language. Prerequisite: Spanish 2 or two years of high school Spanish.

**\*4. Intermediate (3) II**

Continuation of Spanish 3. A general education course in foreign language. Prerequisite: Spanish 3 or three years of high school Spanish.

**5. Intermediate (2) I**

A practical application of the fundamental principles of grammar by means of oral and written work based on Spanish texts. Prerequisite: Spanish 2 or two years of high school Spanish.

**6. Intermediate (2) II**

Continuation of Spanish 5. Prerequisite: Spanish 5 or three years of high school Spanish.

**10. Conversation (2) I**

Practice in the spoken language; practical vocabulary; conversation on assigned topics; simple dialogues and plays. Prerequisite: Spanish 2 or two years of high school Spanish.

**11. Conversation (2) II**

Continuation of Spanish 10. Prerequisite: Spanish 10, or Spanish 3, or three years of high school Spanish.

**\*15. Spanish Civilization (2) I**

The major currents and characteristics of Hispanic life and culture, as expressed through the centuries in literature, art, philosophy, music and science. Conducted in English. No prerequisite. A general education course in the area of foreign languages.

**\*16. Spanish Civilization (2) II**

Continuation of Spanish 15 with emphasis on Spanish America. No prerequisite. A general education course in the area of foreign languages.

**Upper Division Courses****101A-101B. Conversation and Composition (3-3) Year, I (Offered 1957-58)**

Translation into Spanish of moderately difficult English prose passages. Free composition in Spanish. Outside reading of modern Spanish plays, with written reports in Spanish. Oral practice in colloquial Spanish with extensive use of phonograph recordings. Prerequisite: Spanish 4 and 6, or their equivalent, with a grade of C, or permission of instructor.

**102A-102B. Introduction to Spanish Classics (3-3) Year, I (Offered 1958-59)**

Reading from several types of classical literature. Lazarillo de Tormes and other novels of Roguery; selections from Don Quixote, and the Cien Mejores Poesias Castellanas; one drama each from the works of Lope de Vega, Calderon, Alarcon, and Moreto; collateral reading and reports. Prerequisite: Spanish 4 and 6, or their equivalent, with a grade of C.

**104A-104B. Spanish-American Literature (3-3) Year, I**

Reading from representative Spanish-American authors during the colonial, revolutionary and modern periods. Lectures, class reading, collateral reading and reports. Prerequisite: Spanish 4 and 6, or their equivalent, with a grade of C.

**105A-105B. Modern Spanish Drama (3-3) Year, I**

The development of the drama of Spain from the beginning of the nineteenth century to the present time. Prerequisite: Spanish 4 and 6, or their equivalent, with a grade of C.

**110A-110B. Novel and Short Story in Spain (3-3) Year, I (Offered 1957-58)**

The development of the novel and short story in Spain from 1830 to the present time. Prerequisite: Spanish 4 and 6, or their equivalent, with a grade of C.

**\*115. Spanish Civilization (2) I**

An advanced course in Hispanic culture of the past and present, with emphasis on the arts, philosophy, and literature. Lectures, class discussions, outside readings, written reports on individual topics. Conducted in English. Prerequisite: sophomore standing. A general education course in the area of foreign languages.

**\*116. Spanish Civilization (2) II**

Continuation of Spanish 115 with emphasis on Spanish America. Prerequisite: sophomore standing. A general education course in the area of foreign languages.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**198. Comprehensive Reading and Survey Course (3) II**

Designed to fill up the gaps in the reading done in courses. Class meeting once a week for guidance, reports, and quizzes. Required of all seniors majoring in Spanish.



**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****201. Old Spanish (2) I**

A study of the language and literature of Spain from the 12th to the 15th centuries. Prerequisite: nine units of upper division Spanish and graduate status.

**204. Seminar in Spanish-American Literature (2) II**

Intensive investigation of some phase of Spanish-American literature. A single country, an author, or some special problem will be studied and reported upon. Prerequisites: nine units of upper division Spanish and graduate status.

**290. Bibliography (1) See Romance Languages****298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff, to be arranged with department chairman and instructor.

**299. Thesis (3)**

Master's degree candidates in Spanish are expected to substitute a comprehensive examination for the thesis. In unusual cases a student may write a thesis with the permission of the department.

**SPEECH ARTS****IN THE DIVISION OF FINE ARTS****Major**

A *major in arts and sciences* is offered in *speech arts* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division: required in general education: Speech Arts 3. Required in the major: a minimum of 13 units of lower division courses in speech arts, specializing in the fields of dramatic art, radio, public speaking, or a guided combination of the three. Upper division requirements: a minimum of 24 upper division units, including Speech Arts 150, with an emphasis of 12 units in one area of concentration (theater, radio, public speaking, or speech pathology). A minor is suggested, but not required.

A *teaching major in speech arts* is offered for the general secondary credential and the special secondary credential in speech arts; and for the special secondary credential in correction of speech defects.

**Minor**

A *minor in arts and sciences* is offered in *speech arts*. The minor consists of 15 to 22 units in speech arts, nine units of which must be in courses carrying upper division credit.

A *teaching minor in speech arts* is offered for the general secondary, special secondary, general elementary, and kindergarten-primary credentials. For statement of requirements, refer to these credentials.

**The Master's Degree**

The master of arts degree for teaching service is offered with a major in speech arts. See section in this catalog entitled "The Master's Degree."

**Lower Division Courses****1. Voice and Diction (3) I**

Exercises and drills to improve the quality, flexibility and effectiveness of the speaking voice leading to good usage in standard American speech. Preparatory to further courses in public speaking and dramatic art.

**1-X. Speech for International Students (3) I**

Training in production of American speech sounds, blending and assimilation, American prose rhythm and oral communication. Emphasis on clarity and intelligibility. Practical work in aural comprehension. Prerequisite: designation by speech testing committee. (Two units of this course may be counted as fulfilling the general education requirement in Speech Arts 3.)

**2. Oral Communication Laboratory (1) I, II**

Those who fail the speech test must take this course concurrently with Speech Arts 3. This course provides training in articulation, voice control, vocabulary. Individual laboratory assistance on specific speech problems.

**\*3. Oral Communication (2) I, II**

Training in fundamental processes of oral expression; method of obtaining and organizing material; outlining principles of attention and delivery; practice in construction and delivery of various forms of speeches.

**4. Extemporaneous Speaking (3) I, II**

Practice in extemporaneous speaking on subjects of current interest, both national and local, with stress laid on the organization and delivery of content material. Forum discussion will provide speakers with the opportunity of assembling facts quickly to meet such questions as any audience situation might demand.

**11A. Fundamentals of Interpretation (3) I, II**

Application of the principles involved in "making words come alive": response to thought and mood, sensory association, emphasis, climax. Practice selections in poetry and prose.

**11B. Intermediate Interpretation (3) I, II**

Oral reading of various types of material suitable for popular audiences: stories, humorous sketches, light and sentimental verse. Prerequisite: 11A or 55A.

**54. Stage Make-up (2) I (Not offered 1956-57)**

Practice in the application of stage make-up including straight and character. Two laboratory periods per week.

**55A. Elementary Acting (3) I, II**

Development of the individual's ability to express thought and emotion through the effective use of the voice and body. These fundamental skills may be applied to stage, radio, and television acting. (32 hours of laboratory required.)

**55B. Intermediate Acting (3) I, II**

Continuation of 55A emphasizing more emotional material from longer scenes. (32 hours of laboratory required.) Prerequisite: 55A or previous training.

**56A-56B. Dramatic Production (3-3) Year, I**

Technical practices and organization of production for theater and television. Practice in drafting and construction of stage scenery for the college dramatic productions. Prerequisite for 56B: 56A or permission of the instructor.

**57. Elementary Stage Costume. (3) II (Not offered in 1956-57)**

A study of pattern drafting, draping, color harmony and the use of fabrics for stage costuming. Students will receive practical training in the construction of stage costumes. Two lecture-demonstration and recitation hours and one laboratory per week.

**60A-60B. Argumentation and Debate (3-3) Year, I, II**

Obtaining and organizing of evidence and the construction and use of the brief; study and discussion of current issues; the presentation of formal and informal debates. Attention to intramural and intercollegiate debating.

**61A-61B-61C-61D. Intercollegiate Debate (1-1-1-1) I, II**

Students are limited to four units, including lower and upper division courses.

**63A-63B-63C-63D. Verse Choir (1-1-1-1) I, II**

Participation in verse speaking chorus to develop quality, range of tone, and ability in dramatic visualization of poetry. Students are limited to four units, including lower and upper division courses.

**80. Backgrounds in Broadcasting (3) I**

The theory and operation of radio and television broadcasting; history of broadcasting and types of programs. Relates the four major phases of broadcasting; administration, programming, engineering, and advertising.

**81A-81B. Survey of Radio and Television Techniques (3-3) I, II**

Station operation methods; techniques of announcing, acting, directing, sound effects, music integration; radio and television scripting and continuity.

**82A-82B. Radio Workshop (2-2) I, II**

Radio program production, with experience in announcing, recording, acting, engineering, sound effects, music, and writing for programs produced over local commercial radio stations. Four units maximum credit in 82A, 82B, 182A, 182B. Prerequisite: Speech Arts 81A or 81B, or equivalent. (Speech Arts 81A or 81B may be taken concurrently with the workshop.)

**83A-83B. Television Workshop (2-2) I, II**

Television program production, with experience in announcing, acting, production art, lighting, video and audio techniques, special effects, telecine, and writing for programs produced over local commercial television stations. Four units maximum credit in 83A, 83B, 183A, 183B. Prerequisites: Speech Arts 81A or 81B and Speech Arts 55A or 56A, or equivalent, and permission of instructor. (Speech Arts 81A or 81B may be taken concurrently with the workshop.)

**Upper Division Courses****108. Advanced Interpretation (3) I, II**

Analysis of techniques of literary composition as guides to oral interpretation. Achievements of the creative artist as they affect the interpretative artist. Prerequisite: 11A or 11B or permission of instructor.

**116. Field Work in Clinical Practices (4-6) I, II**

Supervised work with representative speech problems; "staffing" of such cases; speech testing; record keeping. Maximum credit six units. Prerequisites: Speech Arts 150, 170, 176, and 179.

**118A. Play Analysis (3) I**

Deals with the one-act play and its technique. New plays are read and discussed in class during their period of development.

**118B. Playwriting (3) II**

Analyses of long plays. Students engage in creative writing.

**140A-140B. Scene Design for Stage and Television (3-3) I, II**

The application of the principles of design, color and perspective to the designing of various types of dramatic productions; the history of stage design. Students will learn to make sketches and models and paint scenery for departmental stage and television productions. Prerequisites: 56A and 56B, or permission of instructor.

**142A-142B. Summer Theater Workshop (3 or 6) Summer**

A theater laboratory for those who wish to devote their entire time to training and a variety of experiences in the summer theater program including acting, design, stagecraft, lighting, directing, and stage management. Prerequisite: permission of the instructor.

**145. Stage and Television Lighting (3) II**

Principles and practice of light, color, lighting instruments, and control equipment, including the design and planning of lighting for plays and television. Students will serve as light crews for departmental productions.

**150. Phonetics (3) I, II**

Auditory and kinesthetic analysis of the sounds of the English language. Valuable as a corrective course in pronunciation and articulation. Required of speech majors and those seeking the speech correction credential.



**152. History and Design of Costume (Stage) (3) I (Not offered 1956-57)**

A study of costume from Egypt to the present. Emphasis on the use of historical costumes on the stage. Costume designs for one stage production. Drawing and painting experience desirable but not necessary.

**154A-154B. History of the Theater (3-3) Year, I, II**

A study of the theater from primitive times to the present. Special attention will be given to the theater as a mirror of the social and cultural background of the various countries and periods in which it is studied. (Speech Arts 154B may be taken without 154A.)

**155. Advanced Acting (3) I**

Problems in characterization: acting styles of the Elizabethan and Eighteenth Century periods. Prerequisite: 55A-55B or the equivalent.

**156. Advanced Dramatic Production (3) II**

Further study of scenery drafting and construction, with attention to the multiple-set play. Planning of scenery construction and rigging for stage and television productions. Prerequisites: Speech Arts 56A and 56B, or permission of instructor.

**159. Stage Direction (3) I**

Planned for prospective directors of plays in schools, colleges and community theaters. Through lectures, discussions, and exercise projects the student will become acquainted with the principles, procedure and methods of stage direction.

**160. Stage Direction Laboratory (1) I, II**

This will consist of experience in directing a one-act play before a departmental or public audience. It may be taken with or it may be preceded by 159. Prerequisite or corequisite: 159. May be repeated once for credit.

**161A-161B-161C-161D. Advanced Intercollegiate Debate (1-1-1-1) I, II**

Students are limited to four units, including lower and upper division courses.

**162. Advanced Argumentation (3) I**

Presents a further and more detailed study in the preparation of briefs and the organization of evidence; opportunity for participation in intramural debates, intercollegiate debate, and community speaking activity. Prerequisite: 60A or 60B or permission of instructor.

**163A-163B-163C-163D. Advanced Verse Choir (1-1-1-1) I, II**

Participation in verse speaking chorus to develop quality, range of tone, and ability in dramatic visualization of poetry. Students are limited to four units, including lower and upper division courses.

**164-S. Verse Choir Directing (2) I, II**

Organizing a given group as a verse choir, considering age, voice quality, background, selection and arrangement of material, and techniques of directing. Demonstrations and practice.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**170. Speech Development (3) I**

Development of normal speech in children; typical and common speech defects in preschool and school children; basic techniques for their prevention and correction.

**174. Clinical Methods in Speech Correction (3) II**

Construction and use of materials and equipment applicable to speech therapy; clinical techniques in speech correction, including case histories, interviews and speech tests; parent and teacher counseling. Prerequisites: Speech Arts 150, 170, 176, and 179.

**E 175. The Role of Parents in Problems of Speech Correction (1) (Extension)**

Assistance to parents in understanding the speech-handicapped child. Open to parents of children admitted to the speech clinic.

**176. Advanced Speech Correction (3) II** (Same course as Education 176)

Etiology and treatment of the more severe speech deviations such as cleft palate, voice disorders, aphasia and cerebral palsy. Prerequisites: Speech Arts 150 and 170. Not open to students with credit for Education 176.

**177. The Teaching of Lip Reading (2)** (Same course as Education 177)

History, theory and methods of lip reading. Aids for the classroom teacher; program and materials of instruction for the specialized teacher. Not open to students with credit for Education 177.

**178. Aural Rehabilitation (3) Irregular** (Same course as Education 178)

The adjustment of the hard-of-hearing group with emphasis on the public school child. State and county hearing programs; audiometric techniques with practice; educational, classroom, and social problems. Meets audiometric certification requirement.

**179. Nervous Speech Disorders (3) I** (Same course as Education 179)

Clinical survey of newest methods of speech correction with special emphasis given to stuttering. (Minimum of 25 laboratory hours required.) Required course for special corrective credential. Not open to students with credit in Education 179.

**180A-180B. Rehearsal and Performance (1) I, II**

One unit of technical practice followed by one unit of acting. One unit may be repeated, making a total of three units.

**181. Radio and Television Station Management and Advertising (3) I**

(Same course as Business Administration 156)

Administrative and commercial methods of radio and television station operation. Advertising trends in broadcasting, audience and program measurement, publicity and promotion; traffic. Prerequisites: Speech Arts 81A and 81B, or equivalent, and permission of instructor. Not open to students with credit for Business Administration 156.

**182A-182B. Radio Workshop (2-2) I, II**

Radio program production with experience in announcing, recording, acting, engineering, sound effects, music, and writing for programs produced over local commercial radio stations. Four units maximum credit in 82A, 82B, 182A, 182B. Prerequisite: Speech Arts 81A or 81B, or equivalent. (Speech Arts 81A or 81B may be taken concurrently with the workshop.)

**183A-183B. Television Workshop (2-2) I, II**

Television program production, with experience in announcing, acting, production art, lighting, video and audio techniques, special effects, telecine, and writing for programs produced over local commercial television stations. Four units maximum credit in 83A, 83B, 183A, 183B. Prerequisites: Speech Arts 81A or 81B and Speech Arts 55A or 56A, or equivalent, and permission of instructor. (Speech Arts 81A or 81B may be taken concurrently with the workshop.)

**184. Writing for Radio and Television (3) II** (Same course as Journalism 184)

Scripts, documentaries, music, continuity for each program type. Correlates writing with radio and television acting and announcing styles. Program formats. Prerequisites: Speech Arts 81A and 81B, or equivalent. Permission of the instructor. Not open to students with credit for Journalism 184.

**185. Radio Production Directing (3) I**

Directing procedure for all types of radio programs. Production of radio workshop programs. Prerequisites: Speech Arts 81A and 81B, and two units from 82A-82B-182A-182B; or equivalent. Permission of the instructor.

**186. Television Production Directing (3) II**

Directing procedure and analysis for all types of television programs. Production of television workshop programs. Prerequisites: Speech Arts 81A, 81B and 159, and two units from 83A-83B-183A-183B; or equivalent. Permission of the instructor.

**188. Field Training in Radio and Television (2-4) I, II**

Six to twelve hours per week (2-4 units) on-the-job participation at radio and television stations. Work done in the field of the student's emphasis, i.e., sales and administration, writing, production, and programming. Prerequisites: senior standing and permission of instructor. Maximum credit four units.

**189. Motion Picture Techniques for Television (3) II**

The use of films in television production. Motion picture production techniques as they apply to television. Kinescope recording and operation of the telecine equipment.

**190S. Rhetorical Theory (3) Summer**

An analysis of rhetorical theory with special attention to Plato, Aristotle, Cicero, Quintilian, Cox, Wilson, Blair, Campbell, Whately, Bain, and modern authors on public speaking. The development of a theory of rhetorical criticism, culminating in a critical evaluation of contemporary oratory.

**191. Organized Discussion (3) II**

Consideration of the symposium, the panel, the open forum, the business session, and varieties of conference speaking. Emphasis upon organization and presentation. Attention to parliamentary procedure for informal groups. Prerequisite: Speech Arts 60 or equivalent.

**192A-192B. Advanced Public Speaking (3-3) Year, I, II**

Careful attention given to the preparation and delivery of longer speeches, using as models classics in the field of oratory. Prerequisite: 4.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of instructor.

**Graduate Courses****200. Seminar (2) I, II**

An intensive study of one phase of speech arts: (a) broadcasting techniques; (b) history of oratory; (c) articulatory problems of speech; (d) technical practice for theater and television; (e) stage direction; (f) oral interpretation; (g) scene design for stage and television. May be repeated with new materials for additional credit.

**290. Bibliography (1) I, II**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis or Project (3) I, II**

Guidance in the preparation of a project or thesis for the master's degree.

**ZOOLOGY****IN THE DIVISION OF LIFE SCIENCES****Major**

*A major in arts and sciences* is offered in *zoology* for the A.B. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Zoology 1 and Botany 1; Biology 15; Chemistry 1A-1B or 2A-2B; and Physics 2A-2B and 3A-3B. Recommended: French or German, and Mathematics 7A-7B. (Nine units in physical science and life science may be counted toward general education requirements in natural science.) Upper division requirements: a minimum of 24 upper division units in the major, at least 18 of which must be in zoology and biology, including Zoology 100, 101, 106, and Biology 155; and six units of which may be in related courses selected with the approval of the departmental adviser. A minor is not required.



A *major in arts and sciences* is offered in *zoology* for the B.S. degree. Courses in the major are in addition to 45 units in general education courses. Lower division requirements: Zoology 1 and Botany 1, or Biology 3 and 4; Biology 15; Chemistry 1A-1B or 2A-2B; and Physics 2A-2B and 3A-3B. Recommended: French or German, and Mathematics 7A-7B. (Nine units in physical science and life science may be counted toward general education requirements in natural science.) Upper division requirements: 36 upper division units in zoology and biology, or approved related fields, including Zoology 100, 101, 106, and Biology 155. A minor is not required.

A *teaching major* is not offered in zoology; however, courses in zoology may be used as part of the *life science major* for the general secondary credential or as part of the *general science major* for the junior high school credential. For specific information, refer to the outlines of requirements for these credentials.

#### Minor

A *minor in arts and sciences* is offered in *zoology*. The minor consists of 15 to 22 units in zoology, six units of which must be in courses carrying upper division credit.

A *teaching minor* is not offered in zoology; however, it may be used as part of the *teaching minor in life science* for the general secondary credential, or as part of the *teaching minor in general science* for the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

#### The Master's Degree

The master of arts degree for teaching service is offered with a concentration in zoology under the major of life science. See section of this catalog entitled "The Master's Degree."

#### Lower Division Courses

##### 1. General Zoology (5) I, II

Introduction to animal biology for those who expect to do advanced work in this field. Three hours of lecture and six hours of laboratory per week. Not open to students with credit for Biology 3 and 4 or Zoology 1A-1B.

##### 8A. Human Anatomy (3) I, II

Systems of the human body and their interrelationships. Two hours of lecture and three hours of laboratory per week. Prerequisites: an introductory course in high school or college chemistry, and an introductory course in high school or college biology or zoology. Not open to students with credit for Zoology 8.

##### 8B. Human Physiology (3) I, II

Functions of the human body; emphasis on the circulatory and nervous systems. Two hours of lecture and three hours of laboratory per week. Prerequisite: Zoology 8A. Not open to students with credit for Physiology 1A or Zoology 20.

#### Upper Division Courses

##### 100. Embryology (4) I, II

The development of vertebrates as illustrated by the frog, chick, and pig. Six hours of laboratory and two hours of lecture and quiz per week. Prerequisite: Zoology 1 or 1B, or Biology 3 and consent of instructor.

##### 101. Animal Physiology (4) I, II

Fundamental animal functions at the cellular, tissue, organ, and organismal levels. Two hours of lecture and six hours of laboratory per week. Prerequisites: Zoology 1 or 1A-1B, or Biology 3 and 4; Biology 15; and Chemistry 1A-1B or 2A-2B.

##### 106. Comparative Anatomy of the Vertebrates (4) I, II

Dissection, study and comparison of organ systems of typical vertebrates. Two hours per week of lecture and six hours of laboratory. Prerequisite: Zoology 1 or 1B, or Biology 3 and consent of instructor.

**108. Histology (4) I**

A study of the microscopic structures and differentiation of tissues and organs of the vertebrates, especially mammals. Two hours of lecture and six hours of laboratory per week. Prerequisites: Either Zoology 1 or 1A-1B, or Biology 3 and 4; recommended Zoology 100.

**109. Hematology (3) I**

Microscopic and chemical examination of blood. One lecture and six hours of laboratory per week. Prerequisites: Either Biology 1, or 3 and 4, or Zoology 1 or 1A-1B.

**112. Marine Invertebrates (4) I**

Identification and study of behavior and life histories of invertebrates of the San Diego region. Frequent collecting trips to the beaches required. Prerequisite: Zoology 1 or 1A, or Biology 4 and consent of instructor. Two hours of lecture and six hours of laboratory or field work per week.

**114. Natural History of the Vertebrates (4) II**

Natural history, distribution, and classification of vertebrate animals; emphasis on local forms. Two hours of lecture and six hours of laboratory per week. Prerequisite: Zoology 1 or Biology 3 or 4.

**115. Ichthyology (4) I (Not offered 1956-57)**

Evolution, interrelationships, structure, identification, habits, and ecology of fishes. Two hours of lecture and six hours of laboratory per week. Prerequisites: Zoology 1 or 1A-1B, or Biology 3 and 4.

**117. Ornithology (4) II**

The study and identification of birds, especially those of the Pacific Coast and the San Diego region. One hour of lecture and six hours per week of laboratory, or field excursions, and a field project. Prerequisite: Zoology 1 or 1B, or Biology 4 and consent of instructor. (Formerly Zoology 113.)

**119-S. Field Zoology (4) Summer**

Observational methods; collecting techniques; identification, ecology, and behavior of Southern California animals. Primarily for students not majoring in the Life Science Division. Two units of lecture and two units of laboratory. Prerequisite: a course in college biological science or permission of the instructor.

**121. General Entomology (4) II**

Structure, physiology, natural history, and classification of insects. Two hours of lecture and six hours of laboratory per week. Prerequisite: Zoology 1 or 1A, or Biology 4. Recommended: Biology 102.

**125. Economic Entomology (4) II**

Course designed for students of agriculture and horticulture. Emphasis is placed on determination and control of insects affecting plants. Quarantine measures are also studied. Two hours of lecture and six hours of laboratory per week. Prerequisite: Zoology 1 or 1A, or Biology 4 and consent of instructor.

**126. Medical Entomology (3) I**

The role of insects and other arthropods in transmission and causation of human diseases. Two hours of lecture and three hours of laboratory per week. Prerequisite: Zoology 1 or 1A, or Biology 4 and consent of instructor.

**128. Parasitology (4) I**

Study of animal parasites with special reference to those of man. Laboratory including identification of important parasites of man, and collection and preservation of local forms. Two hours of lecture and six hours of laboratory per week. Prerequisite: Zoology 1 or 1A-1B, or Biology 4 and consent of instructor.

**\*165. Human Heredity (2) I, II**

Presentation of selected principles of heredity as related primarily to human inheritance. Designed primarily for nonscience majors. Two lectures per week. A life science general education course in the area of the natural sciences.

**166. Honors Course (Credit to be arranged) I, II**

Refer to the Honors Program.

**199. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisites: 15 units in zoology with a grade of A or B; permission of instructor.

**Graduate Courses****290. Bibliography (1) II**

Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's project or thesis.

**298. Special Study (1-6) I, II**

Individual study. Six units maximum credit. Prerequisite: permission of staff; to be arranged with department chairman and instructor.

**299. Thesis (3)**

Guidance in the preparation of a project or thesis for the master's degree.



# DIRECTORY

1955-56

- LOVE, MALCOLM A. (1952).....President  
A.B., Simpson College; M.A., Ph.D., University of Iowa; LL.D., Simpson College.
- ACKLEY, JOHN W. (1947).....Professor of Speech Arts  
A.B., University of Redlands; M.A., Ph.D., University of Southern California.
- ADAMS, EILEEN (Mrs. Bert) (1949).....Librarian I  
A.B., Willamette University; B.S. in L.S., University of Denver.
- ADAMS, JOHN R. (1928).....Chairman, Division of Humanities;  
Professor of English  
A.B., A.M., University of Michigan; Ph.D., University of Southern California.
- ADAMS, WILLIAM J. (1955).....Assistant Professor of Speech Arts  
B.S., McMurray College; M.A., Northwestern University; additional graduate study at Stanford University.
- ALCORN, MARVIN D. (1941).....Professor of Education  
A.B., Southwestern College; A.M., Teachers College, Columbia University; Ed.D., University of Southern California.
- AMSDEN, GEORGIA C. (1925).....Associate Professor of Business Education  
Diploma, Gregg College, Chicago; special secretarial training in various colleges.
- ANDERSON, EVANS L. (1954).....Assistant Professor of Education  
B.A., Gustavus Adolphus College; M.A., University of Minnesota; Ed.D., University of Denver.
- ANDERSON, GRAYDON K. (1949).....Associate Professor of Economics  
A.B., Willamette University; Ph.D., University of Wisconsin.
- ANDERSON, KEITH P. (1956).....Librarian I  
B.A., Pomona College; M.A. and additional graduate study, Claremont Graduate School; M.S. in L.S., University of Southern California.
- ANDERSON, PAUL S. (1955).....Assistant Professor of Education  
A.B., Colorado State College; M.S., Ph.D., University of Wisconsin.
- ANDERSON, PAUL V. (1954).....Assistant Professor of Music  
B.M., North Texas State College; M.M., University of Wisconsin.
- ANDERSON, W. CARLISLE (1955).....Assistant Professor of Industrial Arts  
B.S., Nebraska State Teachers College; M.A., Ph.D., University of Minnesota.
- ANDREWS, JULIA G. (Mrs. F. S.) (1947).....Associate Professor of Art  
A.B., Northwestern University; M.A., Columbia University; additional graduate study at Teachers College, Columbia University.
- \* APPLE, JOE A. (1947).....Professor of Education  
A.B., Southeastern State College; M.A., University of Oklahoma; Ed.D., Teachers College, Columbia University.
- ARMOGIDA, DANIE (1955).....Assistant Professor of Engineering  
B.S., U. S. Naval Academy; M.S., U.S. Naval Postgraduate School.
- BACON, GUINIVERE KOTTER (Mrs. George) (1928).....Associate Professor of Education  
B.S., Utah Agricultural College; M.A., Stanford University; additional graduate study.
- BAKER, CLIFFORD H., JR. (1937).....Assistant Professor of Spanish  
A.B., San Diego State College; M.A., and additional graduate study at the University of California.
- BAKER, DOUGLAS L. (1954).....Assistant Professor of Education  
A.B., Lynchburg College; M.S., Ed.D., University of Southern California.
- BALLANTINE, FRANCIS A. (1949).....Associate Professor of Education  
A.B., Michigan State Normal College; A.M., Ph.D., University of Michigan.
- BARCKLEY, ROBERT E. (1955).....Assistant Professor of Economics  
B.S., University of North Dakota; M.A., Columbia University; additional graduate study at University of Illinois.
- BARNHART, KENNETH EDWIN (1939).....Professor of Sociology  
A.B., Southwestern University; B.D., Southern Methodist University; Ph.D., University of Chicago.
- BECKER, CALLIE D. (Mrs. E. J.) (1946).....Librarian II  
A.B., Shorter College; A.B. in L.S., Emory University.
- BENJAMIN, ROBERT L. (1953).....Assistant Professor of Speech Arts  
A.B., M.S., University of California; Ph.D., University of Wisconsin.

\* On leave Semester I.

- † BENTON, CARL W. (1948) ..... Assistant Professor of Physical Education  
B.S., University of California at Los Angeles; M.S., University of Southern California.
- BIGGER, WILLIAM R. (1952) ..... Assistant Professor of Political Science  
B.A., M.A., University of Wisconsin; Ph.D., University of California at Los Angeles.
- BIRCH, AILEEN J. (Mrs. C. E.) (1949) ..... Assistant Professor of Education  
A.B., M.A., San Diego State College.
- BLOCK, EDWARD A. (1946) ..... Professor of English  
A.B., M.A., Ph.D., University of California.
- BRANSTETTER, R. DEANE (1955) ..... Assistant Professor of Mathematics  
B.S., B.A., Northeast Missouri State Teachers College; M.S., State University of Iowa; Ph.D., Iowa State College.
- BROADBENT, HARRY H. (1949) ..... Assistant Professor of Physical Education  
A.B., University of Oklahoma; M.S., University of Pennsylvania.
- BROOKS, BAYLOR (1931) ..... Assistant Professor of Geology  
B.A., Stanford University; additional graduate study at University of Arizona and Stanford University.
- BROOKSHIRE, MARJORIE S. (1954) ..... Associate Dean of Students, Activities  
B.A., M.A., Ph.D., University of Texas.
- BROWN, BRUCE E. (1955) ..... Assistant Professor of Accounting  
B.S., Iowa State College; M.A., State University of Iowa; additional graduate study at Stanford University and University of California at Los Angeles. Certified Public Accountant.
- BROWN, ELIZABETH McPIKE (Mrs. L. P.) (1926) ..... Professor of French  
Ph.B., M.A., Ph.D., University of Chicago; additional graduate study at the Sorbonne, Paris, France; Certificat d'Etudes Françaises; Diplôme de l'Association Générale de Phonétique, Paris, France; Officier d'Académie.
- BROWN, EUGENE P. (1947) ..... Professor of Accounting and Management  
B.S., Southeastern Teachers College; B.A., M.A., University of Oklahoma; additional graduate study at University of Chicago, University of Southern California, University of Mexico, and University of Vermont. Public Accountant.
- BROWN, LESLIE PARKER (1922) ..... Professor of Spanish and French  
B.A., Yale College; M.A., Harvard University; Ph.D., University of Southern California.
- BRYDEGAARD, MARGUERITE A. (Mrs. H.) (1936) ..... Associate Professor of Education  
A.B., San Diego State College; M.A. and graduate study at Claremont College.
- BURNETT, GAIL A. (1947, except 1951-52) ..... Associate Professor of English  
A.B., Randolph-Macon Woman's College; M.A., University of California at Los Angeles; Ph.D., University of Southern California.
- CAMERON, ROY ERNEST (1929) ..... Professor of Economics  
A.B., Ph.D., University of California.
- CAMPBELL, LOIS B. (1947) ..... Associate Professor of Education  
A.B., University of California; M.A., Teachers College, Columbia University.
- CAPP, MARTIN P. (1953) ..... Lecturer in Engineering  
B.S., M.S., University of Colorado. Registered Professional Engineer and Land Surveyor.
- CARLSON, HILDING B. (1948) ..... Professor of Psychology  
Ph.B., M.S., Ph.D., University of Chicago.
- CARLSON, THORSTEN R. (1948) ..... Professor of Education  
B.E., St. Cloud State Teachers College; M.A., Ph.D., University of Minnesota.
- CARRICK, PAUL M., JR. (1955) ..... Assistant Professor of Marketing  
B.B.A., Northwestern University; graduate study at University of California.
- CASTETTER, ROBERT K. (1954) ..... Assistant Professor of Management  
B.A., Washington and Jefferson College; LL.B., Salmon P. Chase College of Law; LL.M., Indiana University.
- CAVE, MARY F. (1946) ..... Assistant Professor of Physical Education  
B.S., University of North Dakota. Graduate study at Bennington College and University of California at Los Angeles.
- CHADWICK, LEONARD E. (1949) ..... Assistant Professor of Economics  
B.S. and additional graduate study at the University of California.
- CHURCHILL, NEIL C. (1954) ..... Instructor in Accounting  
B.S., M.B.A., University of California at Los Angeles. Certified Public Accountant.
- CORBETT, KATHERINE E. (1921) ..... Associate Professor of Education  
B.Pd., Michigan State Normal College; B.S., A.M., Teachers College, Columbia University.
- CRAWFORD, MAURICE L. (1954) ..... Assistant Professor of Business Education  
B.S., M.S., University of Utah; additional graduate study at University of California at Los Angeles.
- CRAWFORD, RONALD W. (1953) ..... Assistant Professor of Zoology  
A.B., San Diego State College; Ph.D., Cornell University.

- CROUCH, JAMES ENSIGN (1932)** ..... Professor of Zoology  
B.S., M.S., Cornell University; Ph.D., University of Southern California.
- CRUM, CLYDE E. (1955)** ..... Assistant Professor of Education  
B.S., M.S., Kansas State Teachers College; Ed.D., University of Colorado.
- CUMMINS, CARL C. (1953)** ..... Assistant Professor of Industrial Arts  
A.B., Santa Barbara College, University of California; M.S., University of Southern California.
- CUNKLE, ELIZABETH C. (Mrs. L.) (1948)** ..... Librarian II  
A.B., University of California; B.S. in L.S., Columbia University. Graduate study, University of California.
- CUNNINGHAM, CORNELIUS C. (1947)** ..... Professor of Speech Arts  
A.B., Beloit College; M.A., Northwestern University; Ph.D., University of Iowa.
- DANIEL, LARK O., III (1955)** ..... Assistant Professor of Psychology  
B.A., M.A., Southern Methodist University; Ph.D., Purdue University.
- \* **DEBRECHT, EUGENE F. (1949)** ..... Assistant Professor of Marketing  
A.B., San Francisco State College; M.A. and additional graduate study at Stanford University.
- DELORA, JACK R. (1955)** ..... Assistant Professor of Sociology  
B.S., Bowling Green State University; M.A., Western Reserve University; additional graduate study at Michigan State College.
- DIRKS, JOHN H. (1947)** ..... Assistant Professor of Art  
A.B., San Diego State College. Graduate study at University of Southern California.
- DORRIS, HELEN L. (1952)** ..... Assistant Professor of Home Economics  
B.S., Southern Illinois University; M.S., University of Illinois.
- DRESSLER, MARGUERITE R. (1955)** ..... Assistant Professor of Education  
A.B., M.A., Florida State College for Women; Ph.D., University of Washington.
- EAGLE, JOHN E. (1946)** ..... Professor of Mathematics  
B.S., Montana State College; M.A., Ed.D., Stanford University.
- EARNEST, SUE W. (Mrs. L. E.) (1947)** ..... Professor of Speech Arts  
A.B., San Diego State College; M.A., Ph.D., University of Southern California.
- EMERSON, ARTHUR T. (1952)** ..... Assistant Professor of Mathematics  
B.S., U. S. Naval Academy; additional graduate study at Naval War College.
- \* **EVENSON, PATTEE E. (1949)** ..... Associate Professor of Music  
B.S., University of Minnesota; M.M., University of Michigan; specialized training at Universities of Minnesota, Michigan, Southern California, and Eastman School of Music; private instruction in Paris, London and the United States.
- FISHBURN, CLARENCE E. (1955)** ..... Assistant Professor of Education  
A.B., Arizona State College, Tempe; M.A., Arizona State College, Flagstaff; Ed.D., Stanford University.
- FISHER, J. SHERRICK (1953)** ..... Assistant Professor of Education  
B.S., Bethany College; M.A., Teachers College, Columbia University; Ph.D., University of Pittsburgh.
- FLAGG, DENIS A. (1955)** ..... Assistant Professor of Economics  
B.A., Harvard College; Ph.D., University of California.
- FLYE, RICHARD C. (1950)** ..... Assistant Professor of Music  
B.A., University of Virginia; M.A., and Professional Diploma, Columbia University.
- FORD, WALTER B. (1953)** ..... Lecturer in Industrial Arts  
B.E., Santa Barbara State College; graduate study at Claremont Graduate School.
- FOSTER, CLIFFORD D. (1955)** ..... Assistant Professor of Education  
B.S., Northeast Missouri State Teachers College; M.A. and additional graduate study at University of Washington.
- FOX, DOROTHEA B. (1951)** ..... Librarian I  
B.A., San Diego State College; B.S. in L.S., M.A., University of Southern California; graduate study at University of New Mexico.
- FRIEDRICH, KURT (1949)** ..... Associate Professor of Education  
A.B., Columbia College; M.A., Columbia University; Ed.D., Columbia Teachers College.
- FULKERSON, E. GLEN (1954)** ..... Assistant Professor of Education  
B.E., Southern Illinois University; M.A., Ed.D., University of California at Los Angeles.
- GALBRAITH, OLIVER, III (1955)** ..... Assistant Professor of Management  
B.S., M.B.A., Northwestern University; additional graduate study at University of California at Los Angeles.
- GALLUP, AVERY H. (1952)** ..... Assistant Professor of Zoology  
A.B., San Diego State College; M.A., Claremont Graduate School; Ph.D., University of Michigan.
- GATES, GERALD F. (1955)** ..... Assistant Professor of Education  
B.F.A., Syracuse University; M.F.A., University of Colorado; M.A., Ed.D., University of Denver.

\* On leave 1955-56.



- GEHA, PETER C. (1955) ..... Assistant Professor of Education  
A.B., M.S., Ed.D., University of Southern California.
- GELDREICH, EDWARD W. (1947) ..... Associate Professor of Psychology  
A.B., M.A., University of Cincinnati; Ph.D., University of Chicago.
- GENERALES, MINOS D. (1949) ..... Associate Professor of Political Science  
Degree in Law and Political Science, University of Athens; additional graduate study at the University of Paris Law School and Institute of International Studies, Paris and Geneva.
- GERMANN, LULA (1926) ..... Supervising Librarian, Public Services  
B.S., State Teachers College, Hays, Kansas.
- \* GIBSON, ERNEST DANA (1947) ..... Professor of Business Education  
B.S., University of Minnesota; M.A., Colorado State College of Education; Ed.D., New York University.
- GIFFORD, ADAM (1954) ..... Instructor in Economics  
B.A., Portland University; M.A., Stanford University; Ph.D., University of Washington.
- GJERDE, CLAYTON M. (1948) ..... Professor of Education  
A.B., Augsburg College; M.A., Ph.D., University of Minnesota.
- GOLDSMITH, LEO JEAN (1955) ..... Assistant Professor of Engineering  
Geological Engineer, Colorado School of Mines; additional graduate study at University of California at Los Angeles and Colorado School of Mines. Registered Professional Engineer and Land Surveyor.
- GRAWUNDER, RALPH M. (1955) ..... Instructor in Physical Education  
B.A., The Rice Institute; M.A., Ed.D., Teachers College, Columbia University.
- GRISTER, DONALD W. (1951) ..... Associate Professor of Education  
B.S., Bowling Green State University; M.A., Ed.D., Teachers College, Columbia University.
- GROFF, PATRICK J. (1955) ..... Assistant Professor of Education  
B.S., M.S., University of Oregon; Ed.D., University of California.
- GULICK, SIDNEY L., JR. (1945) ..... Professor of English  
B.A., M.A., Oberlin College; Ph.D., Yale University.
- HAMMACK, ISABELLA STEWART (1936) ..... Associate Professor of Education  
A.B., M.A., and additional graduate study at the University of California.
- HARRINGTON, AWONÁ W. (1949) ..... Librarian I  
A.B. and additional graduate study at San Diego State College; M.S. in L.S., University of Southern California.
- HARRINGTON, NEIL J. (1948) ..... Assistant Professor of Chemistry  
B.S., Monmouth College; additional graduate study at DePaul University and Northwestern University.
- HARRIS, VINCENT C. (1950) ..... Associate Professor of Mathematics  
B.A., M.A., Ph.D., Northwestern University.
- HARRISON, ROBERT C. (1953) ..... Assistant Professor of Psychology  
B.S., M.S., Ph.D., University of Washington.
- HARTIGAN, SELWYN C. (1946) ..... Business Manager  
A.B., San Diego State College.
- HARVEY, A. R. (1949) ..... Associate Professor of Mathematics  
B.S., Bates College; A.M., Ph.D., Harvard University.
- HARVEY, DOROTHY R. (Mrs. F. A.) (1924) ..... Assistant Professor of Botany  
A.B., San Diego State College; M.A., University of Southern California. Additional graduate study at University of Southern California and University of Chicago.
- HARWOOD, ROBERT DANIEL (1928) ..... Chairman, Division of Life Sciences;  
Professor of Zoology  
A.B., Pomona College; Ph.D., Cornell University.
- HASKELL, HARRIET (1940, except 1943-45) ..... Associate Professor of English  
A.B., Mills College; M.A., Bryn Mawr College; Ph.D., University of Wisconsin.
- HAYNES, GERALDINE K. (Mrs. L.) (1931) ..... Supervising Librarian, Technical Processes  
A.B., Indiana Central College; B.S. in L.S., University of Illinois.
- HEILMAN, EARNEST A. (1955) ..... Visiting Professor of Accounting  
B.A., Northwestern College; B.A., University of Minnesota; M.A., Ph.D., University of Wisconsin.
- HILL, WAYNE O. (1955) ..... Assistant Professor of Education  
B.A., M.Ed., Eastern Washington College of Education; additional graduate study at Stanford University.
- HENDERSON, DAVID A. (1954) ..... Instructor in Geography  
B.S., M.A., University of Colorado; advanced study at University of California at Los Angeles.
- HODGE, GLENN, L. (1953) ..... Assistant Professor of Management  
B.S., Kansas State Teachers College; M.S., University of Denver; Ph.D., Louisiana State University.

\* On leave 1955-56.

- HOLMES, DARRELL C. (1952).....Associate Professor of Education; Curriculum Evaluator  
B.A., M.A., Ph.D., Ohio State University.
- HOUSEMAN, RICHARD A. (1948).....Professor of Education  
B.S., Central Michigan College of Education; M.A., Ed.D., Teachers College, Columbia University.
- HOUSER, LOWELL (1938).....Associate Professor of Art  
Diploma, Chicago Art Institute. Additional special study in Mexico, Yucatan, Haiti, and New York City.
- HUFFMAN, EDWARD W. (1955).....Instructor in Zoology  
B.S., M.S., University of Illinois; Ph.D., Ohio State University.
- HUNTER, JAMES J., JR. (1946).....Executive Dean; Professor of Education  
A.B., Cornell University; M.S., Ph.D., Syracuse University.
- ISENSE, ROBERT W. (1948).....Associate Professor of Chemistry  
A.B., Reed College; M.A., Ph.D., Oregon State College.
- JACKSON, EVERETT GEE (1930).....Professor of Art  
A.B., San Diego State College; M.A., University of Southern California; additional special study in Mexico.
- JACOBSEN, HELEN M. (1946).....Librarian II  
A.B., San Diego State College; B.S. in L.S., University of California.
- JANSSEN, HENRY L. (1953).....Assistant Professor of Political Science  
B.A., M.A., University of Oklahoma; Ph.D., University of California.
- JOHNSON, DEWAYNE B. (1955).....Assistant Professor of Journalism  
A.B., University of California; Ed.D., University of California at Los Angeles.
- JOHNSON, FRANK LOUIS (1939).....Professor of English  
A.B., M.A., University of Minnesota; Ph.D., University of Wisconsin.
- JONES, C. CARROLL (1955).....Physician and Surgeon  
M.D., Loyola University.
- JONES, KENNETH K., JR. (1948).....Associate Professor of Speech Arts  
B.S., Northwestern University; M.A., Stanford University.
- JOSEPH, LIONEL (1947).....Professor of Chemistry  
B.S., St. Louis University; M.S., Ph.D., Washington University.
- JOY, NED V. (1953).....Assistant Professor of Political Science  
A.B., Ph.D., University of California.
- JULIAN, JAMES L. (1951).....Publications and Public Relations Officer;  
Lecturer in Journalism  
B.S., B.A., University of Houston; M.A., University of Texas.
- KALBFELL, DAVID C. (1948).....Associate Professor of Physics  
A.B., University of California at Los Angeles; M.A., Ph.D., University of California. Registered Electrical Engineer.
- KAPLAN, OSCAR J. (1946).....Professor of Psychology  
B.A., M.A., University of California at Los Angeles; Ph.D., University of California.
- KARLSEN, BJORN (1954).....Assistant Professor of Education  
B.A., State Teachers College, Oslo, Norway; B.S., M.A., University of Nebraska; Ph.D., University of Minnesota.
- KASCH, FREDERICK W. (1948).....Associate Professor of Physical Education  
B.S., M.S., University of Illinois; graduate study at New York University and University of Illinois.
- KEENEY, JOSEPH SUMNER (1933).....Professor of English  
A.B., Yale University; M.A., Ph.D., University of California.
- KEMP, BENNY B. (1954).....Assistant Professor of Music  
B.M., Eastman School of Music; M.M., University of Indiana.
- KENNEDY, CHESTER B. (1937).....Professor of English  
A.B., Chico State College; M.A., Ph.D., Stanford University.
- KIDWELL, WILLIAM M. (1949).....Placement Officer; Associate Professor of Psychology  
B.A., M.S., University of Oregon; Ed.D., Stanford University.
- KILLION, JOHN J. (1955).....Physician and Surgeon  
B.A., University of Minnesota; M.D., University of Tennessee School of Medicine.
- KINDER, JAMES S. (1953).....Coordinator of Audio-Visual Services;  
Assistant Professor of Education  
B.S., Southeast Missouri College; M.A., Ph.D., Teachers College, Columbia University.
- KIRBY, BERNARD C. (1954).....Assistant Professor of Sociology  
A.B., Denison University; M.A., Ph.D., University of Washington.
- KITSUSE, JOHN I. (1955).....Instructor in Sociology  
B.S., Boston University; M.A., and additional graduate study at University of California at Los Angeles.

- KITZINGER, ANGELA M. (1945)..... Associate Professor of Health Education  
A.B., Barnard College, Columbia; M.A., Teachers College, Columbia University.
- KLAPP, ORRIN E. (1948)..... Associate Professor of Sociology  
M.A., Ph.D., University of Chicago.
- KLEMER, ELIZABETH J. (1953)..... Assistant Professor of Education  
B.E., National College of Education; M.A., George Peabody College; graduate study at Teachers College, Columbia University, and Stanford University.
- KOESTER, GEORGE A. (1950)..... Associate Professor of Education  
B.S., Midland College; M.A., University of Colorado; Ph.D., University of Minnesota.
- LAMDEN, CHARLES W. (1946)..... Chairman, Division of Business Administration;  
Professor of Accounting and Management  
A.B., M.A., University of California at Los Angeles; Ph.D., University of California. Certified Public Accountant.
- LANDIS, VINCENT J. (1954)..... Instructor in Chemistry  
B.S., Washington State College; advanced study at University of Minnesota.
- LAURITSEN, WILLIAM H. (1947)..... Professor of Health Education  
A.B., M.A., University of Nebraska; Ph.D., Ohio State University.
- LeBARRON, EVANGELINE O. (Mrs. H. E.) (1946, except 1948-49)  
Associate Professor of Business Education  
B.A., B.S., University of Iowa; B.A., Sioux Falls College; additional graduate study at Claremont Colleges, Universities of Southern California, Minnesota and Hawaii.
- LEFFER, DONALD B. (1948)..... Professor of Political Science  
A.B., University of California at Los Angeles; M.A., Ph.D., Harvard University.
- LEMMER, MAURICE M. (1948)..... Professor of Mathematics  
A.B., Oakland College; M.A., Indiana University; Ph.D., Purdue University.
- LEONARD, CHARLES B. (1921)..... Professor of History  
A.B., M.A., Ph.D., University of California.
- LIENERT, CHARLES (1954)..... Assistant Professor of Education  
B.E., Southern Illinois University; M.S., University of Illinois; Ed.D., Colorado State College of Education.
- LINLEY, JAMES M. (1945)..... Associate Professor of Education  
Ph.B., University of Chicago; M.S., Ph.D., University of Southern California.
- LINN, ROBERT A. (1955)..... Activities Adviser  
B.S., M.A., Ball State Teachers College; additional graduate study at University of California at Los Angeles.
- LOCKMAN, EVELYN (1948)..... Associate Professor of Physical Education  
B.A., Vanderbilt University; M.A., George Peabody College; graduate study at New York University, and University of Wisconsin; additional special study in dance.
- LODGE, CHESTER R. (1954)..... Assistant Professor of Engineering  
B.S., M.S., Ph.D., State University of Iowa.
- LONGENECKER, MARTHA W. (Mrs. J. I.) (1955)..... Instructor in Art  
B.A., University of California at Los Angeles; M.F.A., Claremont Graduate School.
- LUCE, LAWRENCE W. (1949)..... Assistant Professor of Industrial Arts  
B.S., Illinois Wesleyan University; M.S., Iowa State College.
- MADDEN, RICHARD (1939)..... Coordinator of Graduate Studies; Professor of Education  
A.B., Nebraska (Peru) State Teachers College; M.A., Ph.D., Columbia University.
- MALCOLM, DAVID D. (1953)..... Assistant Professor of Education  
A.B., Harvard College; Ed.M., Boston University; Ph.D., Northwestern University.
- MARCHAND, ERNEST L. (1946)..... Professor of English  
A.B., M.A., University of Washington; Ph.D., University of Wisconsin.
- McBLAIR, WILLIAM (1948)..... Assistant Professor of Zoology  
A.B., San Diego State College; additional graduate work at the University of California.
- \* McCLINTIC, JOSEPH O. (1946)..... Professor of Economics  
A.B., Central College; A.M., University of Missouri; Ph.D., University of Wisconsin.
- McCOLLOM, IVAN N. (1946)..... Professor of Psychology  
A.B., Central Washington College of Education; B.S., M.S., University of Oregon; Ed.D., Colorado State College of Education.
- McCULLOCH, MARGARET L. (1955)..... Assistant Professor of Physical Education  
B.A., University of California; M.S., Ed.D., University of Oregon.
- McLONEY, WIRT L. (1949)..... Assistant Professor of Industrial Arts  
A.B., Western State College; M.A., Colorado State College of Education.
- MENDENHALL, MARY (1939)..... Professor of Philosophy  
B.A., University of Colorado; M.A., University of Southern California; Ph.D., Yale University.

\* On leave Semester I.



- MERRILL, JOHN E. (1946).....Assistant Professor of History  
A.B., Stanford University; A.M., Harvard University; Ph.D., Stanford University.
- MERZBACHER, CLAUDE FELL (1947).....Assistant Professor of Physical Science  
B.S., University of Pennsylvania; M.A., Claremont Graduate School. Certificat d'Etudes Fran-  
caises. Licensed Professional Chemical Engineer.
- MESSIER, LEONARD N. (1946).....Professor of French  
A.B., San Diego State College; M.A., Ph.D., University of California.
- MILLER, MARTHA H. (Mrs. A. R.) (1952).....Instructor in Education  
A.B., M.A., San Diego State College.
- MILNE, DAVID S. (1946).....Chairman, Division of Social Sciences; Professor of Sociology  
A.B., University of California at Los Angeles; M.A., University of Southern California; Ph.D.,  
University of Chicago.
- MILOW, EDGAR D. (1955).....Instructor in Geology  
B.S., San Diego State College; additional graduate study at Stanford University.
- MOE, CHESNEY R. (1931).....Professor of Physics  
A.B., M.A., Stanford University; Ph.D., University of Southern California. Registered Electrical  
Engineer.
- MONTEVERDE, JOHN P. (1954).....Instructor in English  
B.A., M.A., and additional graduate study at University of California at Los Angeles.
- MORGAN, CHARLES (1949).....Associate Professor of Engineering  
M.E., Stevens Institute of Technology; M.S., University of California. Registered Professional  
Mechanical Engineer.
- MYERS, MABEL A. (1946).....Professor of Bacteriology  
A.B., M.A., Pomona College; Ph.D., Cornell University.
- NARDELLI, ROBERT R. (1953).....Assistant Professor of Education  
B.A., M.A., Arizona State College; Ph.D., University of California.
- NASATIR, ABRAHAM PHINEAS (1928).....Professor of History  
A.B., M.A., Ph.D., University of California.
- NICHOLS, AMBROSE R., JR. (1939).....Professor of Chemistry  
B.S., University of California; Ph.D., University of Wisconsin.
- NORLAND, CALVERT E. (1947).....Assistant Professor of Zoology  
A.B., Pomona College; M.S., University of California. Graduate study at Claremont Colleges.
- NUTTALL, EDMUND C. (1953).....Coordinator of Evening Program;  
Assistant Professor of Speech Arts  
A.B., San Diego State College; M.A., University of Southern California.
- NYE, NEVA E. (1953).....Associate Professor of Nursing  
B.A., University of Michigan; M.Litt., University of Pittsburgh
- O'BYRNE, ERNEST B. (1954).....Dean of Educational Services and Summer Session  
A.B., A.M., Colorado State College of Education; Ph.D., Stanford University.
- ODMARK, VERNIE E. (1952).....Associate Professor of Accounting  
B.S., St. Cloud State Teachers College; M.A., University of Minnesota; Ph.D., University of  
Missouri; Public Accountant.
- OLSON, ANDREW C., JR. (1946).....Associate Professor of Zoology  
A.B., San Diego State College; M.S., University of Idaho; Ph.D., Oregon State College.
- OSBORN, CLARENCE G. (1928-29 and 1937).....Professor of History and Political Science  
A.B., A.M., Ph.D., Stanford University.
- PARKER, MARION L. (Mrs. D. G.) (1951).....Registrar  
A.B., San Diego State College; M.A., University of Southern California.
- PEIFFER, HERBERT C., JR. (1937).....Dean of Students;  
Professor of Psychology and Guidance  
A.B., University of California at Los Angeles; M.A., Ph.D., Stanford University.
- PEMBERTON, LEROY A. (1955).....Instructor in Business Education  
A.B., A.M., Colorado State College.
- PENERY, JOHN E., JR. (1955).....Assistant Professor of Education  
A.B., M.A., Whittier College; additional graduate study at University of California at Los  
Angeles.
- PEREZ, ROSE MARIE (1948).....Librarian II  
A.B., San Diego State College; B.S. in L.S., University of Southern California; M.A., Uni-  
versity of Chicago; graduate study at University of Madrid.
- PERKINS, WILLIAM A. (1955).....Assistant Professor of English  
A.B., Ph.D., Stanford University.
- PFAFF, PAUL LEWIS (1931).....Professor of Speech Arts  
A.B., Stanford University; M.A., Ph.D., University of Southern California.
- \* PHILLIPS, GEORGE L. (1947).....Associate Professor of English  
A.B., Dartmouth College; M.A., Harvard University; Ph.D., Boston University.

\* On leave Semester II.

- PHILLIPS, KENNETH (1950).....Professor of Industrial Arts  
B.S., State College for Teachers (Buffalo); M.A., Ph.D., Ohio State University.
- PHILLIPS, WALTER THOMAS (1927).....Professor of Spanish  
A.B., University of Washington; M.A., Stanford University; Ph.D., University of Southern California.
- PIERSON, ALBERT C. (1954).....Assistant Professor of Management and Marketing  
B.L.A.S., University of Illinois; M.B.S., Harvard University; additional graduate study at Columbia University.
- PINCELL, STANLEY J., JR. (1955).....Instructor in History  
B.A., M.A., Ph.D., University of California; Doctor of University, University of Paris (Sorbonne), France.
- PLACE, ROBERT I. (1954).....Assistant Professor of Business Education  
B.E., Wisconsin State College; A.M., Northwestern University; additional graduate study at University of Southern California.
- PLATZ, MARVIN H. (1955).....Assistant Professor of Education  
B.S., Northeast Missouri State Teachers College; M.Ed., Ed.D., University of Missouri.
- POST, LAUREN CHESTER (1937).....Professor of Geography  
A.B., M.A., Ph.D., University of California.
- POVENMIRE, E. KINGSLEY (1946).....Associate Professor of Speech Arts  
B.S., Ohio State University; M.F.A., Yale University.
- POWELL, DON W. (1953).....Assistant Professor of Speech Arts  
B.S., Kirksville State Teachers College; M.F.A., State University of Iowa.
- PRESTON, DUDLEY A. (1948).....Associate Professor of Botany  
B.S., Washington State College; M.S., Ph.D., University of Minnesota.
- PROUTY, HELEN L. (1950).....Assistant Professor of Education  
B.S., University of Nebraska; M.A., Ph.D., University of California.
- RADER, Daniel L. (1954).....Assistant Professor of History  
A.B., M.A., Ph.D., University of California.
- RAGEN, KATHERINE M. (1947).....Professor of History  
A.B., Penn College; M.A., Bryn Mawr College; Ph.D., University of Wisconsin.
- RATTY, FRANK J. (1954).....Instructor in Zoology  
B.A., San Diego State College; M.S., Ph.D., University of Utah.
- RICHARDSON, ROBERT W. (1939, except 1946-48).....Professor of Geography  
A.B., Ph.D., University of California.
- RIDGE, MARTIN (1955).....Assistant Professor of History  
B.E., Chicago Teachers College; M.A., Ph.D., Northwestern University.
- RIDOUT, LIONEL U. (1946, except 1949-50).....Associate Professor of History  
A.B., San Diego State College; M.A., University of California; Ph.D., University of Southern California.
- RIGGS, LESTER G. (1950, except 1951-52).....Associate Professor of Mathematics  
B.S., University of Illinois; M.S., Syracuse University; Ph.D., Northwestern University.
- ROBERTS, ELLIS E. (1949).....Associate Professor of Geology  
B.S., Michigan College of Mining and Technology; M.S., California Institute of Technology; Ph.D., Stanford University.
- ROBERTSON, FRANK O. (1953).....Director of Health Services  
B.S., M.S., B.S., (Medicine), University of North Dakota; M.D., University of Oregon Medical School.
- ROBINSON, DUDLEY HUGH (1928).....Chairman, Division of Physical Sciences;  
B.S., Louisiana State University; M.S., State University of Iowa; Ph.D., University of Southern California. Registered Chemical Engineer.  
Professor of Chemistry
- ROGERS, SPENCER LEE (1930).....Professor of Anthropology  
A.B., San Diego State College; M.A., Claremont Colleges; Ph.D., University of Southern California.
- ROHFLEISCH, KRAMER J. (1947).....Professor of History  
A.B., M.A., Ph.D., University of California.
- ROST, NORMAN (1951).....Assistant Professor of Music  
B.M., M.M., University of Michigan.
- ROWE, ROBERT D. (1946).....Professor of Chemistry  
A.B., Engineer in Engineering Chemistry, Ph.D., Stanford University.
- RUJA, HARRY (1947).....Associate Professor of Philosophy and Psychology  
A.B., University of California at Los Angeles; M.A., University of Chicago; M.A., San Diego State College; Ph.D., Princeton University.
- RUMBAUGH, DUANE M. (1954).....Instructor in Psychology  
A.B., University of Dubuque; M.A., Kent State University; Ph.D., University of Colorado.

- RUOCCO, ILSE H. (Mrs. L.) (1934)..... Associate Professor of Art  
B.E., University of California at Los Angeles; M.A., Columbia University.
- RYAN, FREDERICK L. (1946)..... Professor of Economics  
B.S., Tufts College; Ph.D., University of California.
- SABALA, VIRGINIA H. (1954)..... Librarian I  
A.B., University of Arizona; Teacher-Librarian Certificate.
- SAMPLES, HOWELL GORDON, JR. (1950)..... Librarian I  
A.B., University of Georgia; B.S. in L.S., George Peabody College for Teachers.
- SCHALLES, FRANCES IRENE (1950)..... Librarian I  
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- SCHRUPP, MANFRED H. (1948)..... Chairman, Division of Education;  
Professor of Education  
B.S., M.Ed., Ph.D., University of Minnesota.
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B.S., M.A., Ph.D., University of Minnesota.
- SCHUTTE, WILLIAM H. (1947)..... Associate Professor of Physical Education  
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- SELLMAN, HUNTON D. (1946)..... Professor of Speech Arts  
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- SEVERANCE, GORDON B. (1955)..... Assistant Professor of Economics  
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- SHANNON, FLORENCE S. (Mrs. E. L.) (1933)..... Assistant Professor of Physical Education  
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- SHAW, PETER W. (1955)..... Instructor in Mathematics  
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- SIELDS, ALLAN E. (1949)..... Associate Professor of Philosophy  
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- SHOUSE, CLAUDE F. (1946)..... Associate Professor of English  
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- SILVERNAIL, CHESTER J. (1949)..... Assistant Professor of Astronomy  
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- SKOLIL, LESTER L. (1951)..... Associate Professor of Physics  
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- SMITH, CLIFFORD EDWARD (1937)..... Professor of Astronomy  
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- SMITH, DEANE FRANKLIN (1939)..... Associate Professor of Music  
B.M., M.M., Northwestern University.
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- SPANGLER, JOHN A. (1946)..... Professor of Chemistry  
A.B., Ph.D., West Virginia University.



- SPORTSMAN, CHARLES C. (1947).....Associate Professor of Physical Education  
B.S., North Texas State College; M.S., and additional graduate study at the University of Southern California.
- SPRINGSTON, CHRISTINE (1930).....Associate Professor of Music  
B.A., B.M., University of Redlands; M.A., University of Washington, Diplôme d'exécution, Conservatoire Americain, Fontainebleau, France.
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- STEWART, PAUL E. (1953).....Assistant Professor of Physical Science  
A.B., College of Wooster; Ph.D., Stanford University.
- STONE, HAMILTON L. (1947).....Assistant Professor of Engineering  
B.S., U. S. Naval Academy. Graduate study at U. S. Naval Postgraduate School. Registered Mechanical Engineer.
- STONE, JOHN PAUL (1930).....College Librarian; Professor of Library Science  
B.S., Northwest Missouri State Teachers College; B.S., M.S., University of Illinois; Ph.D., University of Chicago.
- STONER, WILLIAM J. (1954).....Instructor in Mathematics  
A.B., University of Kansas; M.S., Iowa State College.
- STORM, ALVENA (Mrs. Eugene) (1926).....Associate Professor of Geography  
A.B., M.A., University of California.
- STOUGH, MORROW F. (1950).....Principal, Campus Laboratory School;  
Associate Professor of Education  
A.B., Wittenberg College; M.A., University of Pennsylvania; Ph.D., University of California.
- STRAUB, LURA LYNN (1948).....Assistant Professor of Business Education  
A.B., Jamestown College; M.C.S., Indiana University; additional graduate study at University of Wyoming and University of Denver.
- SWIGGETT, JEAN D. (1946).....Professor of Art  
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- SZABO, ANDREW (1955).....Librarian II  
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- TALBOY, RUTH A. (1947).....Assistant Professor of Home Economics  
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- TAYLOR, JAMES W. (1950).....Assistant Professor of Geography  
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- TAYLOR, MERREL A. (1946).....Assistant Professor of Zoology  
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- TERHUNE, JOHN A. (1947).....Assistant Professor of Physics  
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- TERRY, WILLIAM L. (1946).....Chairman, Division of Physical Education, Health Education  
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- THEOBALD, JOHN R. (1946).....Professor of English  
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- THOMAS, VIRGINIA (Mrs. A. F.) (1954).....Librarian I  
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- TIDWELL, JAMES N. (1947).....Professor of English  
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- TOLLEFSEN, DOROTHY J. (1946).....Associate Professor of Physical Education  
A.B., M.A., University of California.
- TORBERT, FRANCES B. (Mrs. H.) (1937).....Associate Professor of Management  
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- TOZER, LOWELL (1954).....Assistant Professor of English  
A.B., University of Chicago; M.A., De Paul University; Ph.D., University of Minnesota.
- TRAIL, MABEL COY (1935).....Professor of English  
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- TREAT, WOLCOTT C. (1950).....Associate Professor of Psychology  
A.B., Harvard College; A.M., Harvard University; Ph.D., Stanford University.
- TRIMMER, RUSSELL L. (1955).....Assistant Professor of Education  
A.B., Stanford University; M.A., Ph.D., Claremont Graduate School.
- TUCKER, GORDON H. (1945).....Professor of Zoology  
B.S., M.S., University of South Carolina; Ph.D., University of North Carolina.
- TURNER, MERLE B. (1950).....Assistant Professor of Psychology  
A.B., Willamette University; M.A., Stanford University; Ph.D., University of Colorado.
- VANCE, ROBERT W. (1954).....Physician and Surgeon  
B.S., University of South Dakota; M.D., Northwestern University.
- VOEKS, VIRGINIA W. (1949).....Associate Professor of Psychology  
B.S., M.S., University of Washington; Ph.D., Yale University.
- WALBA, HAROLD (1949).....Associate Professor of Chemistry  
B.S., Massachusetts State College; Ph.D., University of California.
- WALCH, HENRY A., JR. (1955).....Instructor in Bacteriology  
B.A., Ph.D., University of California at Los Angeles.
- WALKER, DONALD E. (1949).....Associate Dean of Students, Counseling  
A.B., M.Th., University of Southern California; Ph.D., Stanford University.
- WALLING, CURTIS R. (1931).....Professor of Engineering  
A.B., E.E., Stanford University; additional graduate study at Stanford University and the University of Southern California. Registered Electrical Engineer.
- WANLASS, DOROTHY C. (1955).....Instructor in English  
B.S., Utah State Agricultural College; M.A., and additional graduate study at Columbia University.
- WARREN, LeROY J. (1955).....Instructor in Mathematics  
B.A., College of Idaho; M.A., Ph.D., University of Oregon.
- WATENPAUGH, FRANK M. (1935).....Associate Professor of Accounting  
A.B., Pomona College; M.A., University of Southern California; additional graduate study at University of Southern California and University of Oregon. Public Accountant.
- WATSON, DONALD R. (1939).....Dean of Instruction; Professor of Physical Science  
A.B., B.S., A.M., Ed.D., University of Southern California.
- WEBB, CHARLES R., JR. (1949).....Associate Professor of History  
A.B., M.A., University of California; M.A., Ph.D., Harvard University.
- WENDLING, AUBREY (1954).....Assistant Professor of Sociology  
A.B., San Francisco State College; M.A., Ph.D., University of Washington.
- \* WEST, EDNA A. (1948).....Assistant Professor of Business Education  
B.A., Santa Barbara State College; M.A., Claremont Colleges; additional graduate study at Claremont Colleges, Columbia University and Oregon State College.
- WHITE, ALFRED E. (1946).....Admissions Officer; Associate Professor of Guidance  
A.B., M.A., University of California; Ed.D., Stanford University.
- WILCOX, ROBERT F. (1950).....Coordinator of Public Administration;  
Associate Professor of Political Science  
A.B., M.A., Stanford University; M.A., Columbia University; Ph.D., Stanford University.
- WILSON, ALLAN N. (1954).....Instructor in Physics  
B.S., Webb Institute of Naval Architecture; Ph.D., University of California.
- WIMER, ARTHUR C. (1950).....Lecturer in Journalism  
B.Lit., Columbia University; M.A., University of Iowa.
- WOLF, ERNEST M. (1947).....Associate Professor of German and Romance Languages  
Study at the Universities of Berlin, Paris, Muenster, Cambridge and Bonn. Ph.D., University of Bonn.
- WRIGHT, JOHN S. (1952).....Assistant Professor of Marketing  
Ph.B., University of North Dakota; M.B.A., University of Southern California; Ph.D., Ohio State University.
- † WRIGHT, WILLIAM H. (1921).....Professor of Accounting and Business Management  
B.S., M.A., University of California; Ph.D., University of Southern California. Public Accountant.
- YAHN, CHARLES C. (1955).....Instructor in Geography  
B.S., M.S., Illinois State Normal University; additional graduate study at University of Illinois.
- ZIEGENFUSS, GEORGE (1948).....Professor of Physical Education  
B.A., University of Washington; M.A., Ed.D., Teachers College, Columbia University.
- ZIMMERMAN, WAYNE S. (1953).....Test Officer; Assistant Professor of Psychology  
B.A., Santa Barbara State College; Ph.D., University of Southern California.

\* On leave 1955-56.

† On leave Semester I.

LECTURERS

AIKEN, KELMAN R. (1955) Rohr Aircraft Corporation.	Lecturer in Management
ATKINSON, BEATRICE (1954) San Diego County Hospital School of Nursing.	Lecturer in Nursing
BACK, GILBERT (1950) Professional musician.	Lecturer in Music
BUSEY, GEORGE M. (1955) San Diego City Schools.	Lecturer in Marketing
CARRELL, HOWARD W. (1955) Convair, Division of General Dynamics Corporation.	Lecturer in Marketing
CLARK, HELEN S. (1952) B.A., Macalester College.	Lecturer in Mathematics
COMIN, NORITA N. (1949) B.S., University of Minnesota.	Lecturer in Home Economics
COOVER, RUTH H. (Mrs. M.H.) (1955) M.A., University of Nebraska.	Lecturer in German
DE JULIEN, LORENZ F. (1949) Self-employed	Lecturer in Marketing
GANONG, CONSTANCE L. (1954) San Diego County Hospital School of Nursing.	Lecturer in Nursing
GOODWIN, JOHN H. (1947) Insurance broker.	Lecturer in Insurance
HARRIS, MARCIA L. (Mrs. S. A.) (1955) A.B., San Diego State College.	Lecturer in Speech Arts
HAYES, ARTHUR H. (1954) A.B., San Diego State College.	Lecturer in Chemistry
HELLYER, C. DAVID (1954) The San Diego Union.	Lecturer in English
HENDERSON, CAROL J. (1955) San Diego County Hospital.	Lecturer in Nursing
HUFF, GEORGE D., M.D. (1939) Practicing physician.	Lecturer in Health and Hygiene
KAVELMAN, ROBERT A. (1955) San Diego City Schools.	Lecturer in Music
KRONMYER, ROBERT E. (1955) Gray, Cary, Ames & Frye.	Lecturer in Management
LIVERMORE, GEORGE H. (1954) Chula Vista City Schools.	Lecturer in Mathematics
MOSEN, ARTHUR W. (1955) Rohr Aircraft Corporation.	Lecturer in Chemistry
MULLENIX, CARLOS W. (1950) Professional musician.	Lecturer in Music
PASCOE, DAVID D., JR. (1955) La Mesa-Spring Valley Schools.	Lecturer in Education
PLATNER, JAY GOULD (1954) A.B., San Diego State College.	Lecturer in English
RADER, PHILIP S. (1955) B.S., Middle Tennessee State College.	Lecturer in Chemistry
ROBINSON, LOUIS E., D.D.S. (1955) Practicing dentist.	Lecturer in Zoology
SANDERLIN GEORGE W. (1955) Ph.D., Johns Hopkins University.	Lecturer in English
SCHMITT, ALFRED F. (1955) Ryan Aeronautical Company.	Lecturer in Engineering
SONKA, BERTHA (Mrs. J.) (1955) M.A., San Diego State College.	Lecturer in English
STERN, MARVIN (1955) Convair, Division of General Dynamics Corporation.	Lecturer in Engineering
SYLVESTER, HELEN K. Principal, Euclid School. A.B., San Diego State College.	Lecturer in Education
TUOHY, ROBERT E. (1955) Union Title Insurance and Trust Company.	Lecturer in Business Education
TROGE, RALPH F. Principal, Woodrow Wilson Junior High School. Ed.D., University of Oregon.	Lecturer in Education



VAN CLEAVE, MAURICE (1954)	Lecturer in Accounting
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WALLEN, PHYLLIS W. (Mrs. H. F.) (1955)	Lecturer in Art
A.B., San Diego State College.	
WALSH, MARY A. (Mrs. W. E.) (1955)	Lecturer in Education
M.A., Teachers College, Columbia University.	
WILSON, JAMES F. (1955)	Lecturer in Education
San Diego City Schools.	
WILTON, JOHN W. (1955)	Lecturer in Zoology
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WOODARD, WILLIAM T. (1955)	Lecturer in Geology
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CHAMBERLAIN, JOHN G. (1955)	Assistant in Zoology
B.A., Occidental College.	
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B.A., University of Minnesota.	
FOSTER, FREDERICK T. (1954)	Assistant in Mathematics
A.B., San Diego State College.	
JONES, DAVID N. (1955)	Assistant in Mathematics
B.A., San Diego State College.	
MAIERHOFFER, MARIE G. (1955)	Assistant in Business Education
B.S., New Mexico College of Agriculture and Mechanic Arts.	
MEEK, CAROLYN J. (Mrs. J. S.) (1955)	Assistant in English
A.B., San Diego State College.	
MOORE, THOMAS W. (1955)	Assistant in Physics
B.S., California Institute of Technology.	
PATTERSON, DOROTHY M. (Mrs. D.) (1955)	Assistant in English
A.B., San Diego State College.	
SIMMONS, ROBERT E. (1955)	Assistant in Physics
B.A., San Diego State College.	
STICKNEY, GAYLORD L. (1955)	Assistant in Accounting
B.S., San Diego State College.	
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A.B., San Diego State College.	
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B.A., Stanford University.	
WITT, ROBERT H. (1955)	Assistant in Zoology
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MONACO, JOHN, JR., LT. COL. (1952)	Chairman, Division of Air Science; Commanding Officer and Professor of Air Science
SEELY, FRANK K., MAJOR (1952)	Assistant Professor of Air Science
WILSON, IRVIN B., CAPTAIN (1955)	Assistant Professor of Air Science
WARREN, WILLISTON L., CAPTAIN (1955)	Assistant Professor of Air Science
LANGLAND, KENNETH E., 1ST LIEUTENANT (1955)	Assistant Professor of Air Science
CAVIN, HERBERT W., M/SGT. (1955)	NCOIC, Supply
KLEMETSON, HAROLD A., M/SGT. (1952)	Sgt. Major
SHORE, EUGENE C., M/SGT. (1952)	Cadet Records
FREDERICK, HERBERT L., T/SGT. (1954)	Cadet Records
SMITH, DONALD C., S/SGT. (1955)	Senior Clerk

# RETIRED FACULTY

(Date following name indicates date of retirement)

HARDY, EDWARD L. (1935)	President Emeritus
HEPNER, WALTER R. (1952)	President Emeritus
BAIRD, OSCAR (1951)	Professor of Physics
BLAKE, DEAN (1952)	Lecturer in Meteorology
DICKHAUT, FLORENCE SMITH (1952)	Professor of English
HAMMACK, EDITH CHASTAIN (1950)	Associate Professor of Education
JOHNSON, MYRTLE (1946)	Professor of Biology
LEIB, JULIUS (1954)	Associate Professor of Music
MOLITOR, VINNIE CLARK (1938)	Associate Professor of Geography
PERRY, FAY V. (1953)	Professor of Sociology
PETERSON, CHARLES E. (1953)	Dean of Men; Professor of Physical Education
SKILLING, W. T. (1936)	Professor of Astronomy
SMITH, LEILA DEBORAH (1948)	Professor of Music
STOVALL, HARRIET B. (1954)	Senior Librarian
TANNER, JESSIE R. (1936)	Associate Professor of Physical Education
WALKER, HILDE KRAMER (1951)	Assistant Professor of German

## MEDICAL STAFF

FRANK O. ROBERTSON, M.D.	Director of Health Services
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JOHN J. KILLION, M.D.	Physician
ROBERT W. VANCE, M.D.	Physician
* HAROLD G. CARTER, M.D.	Physician
* O. S. HARBAUGH, M.D.	Physician
* ROBERTS B. PAPPENFORT, M.D.	Physician
IONA C. BARRETT, R.N.	Nurse
MARIAN E. MOUNT, R.N.	Nurse
LILLIAN OLSON, P.H.N.	Nurse
EULA RIEKE, R.N.	Nurse
ARLENE THOMPSON, R.N.	Nurse
MARILYNN M. THOMPSON, P.H.N.	Nurse

## MAINTENANCE STAFF

TIMOTHY V. HALLAHAN, A.B.	Chief of Maintenance
CAREY D. FOLGER	Supervisor of Building Trades
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STEPHEN W. REED	Supervising Groundsman
WALTER J. SMITH	Electrician
WILLIAM F. LUPKE	Plumber
KENNETH C. TAYLOR	Stationary Engineer

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